

1 or put into a mentholated cigarette produced by  
2 Lorillard?

3 A. I don't know.

4 Q. Okay. Let's take a break. Hang on a  
5 sec. Don't stop something.

6 MR. GUSTAFSON: No, he said we're done.

7 MR. ANGELOS: Wait a minute. Okay.

8 Let's go take lunch.

9 THE VIDEOGRAPHER: Off the record, end  
10 of tape two at 12:35.

11 (Lunch recess taken -- 12:35 P.M.)

12 (After recess -- 1:21 P.M.)

13 THE VIDEOGRAPHER: Starting of tape  
14 three, on the record at 1:21 P.M.

15 (Deposition Exhibit Number 11,704 was  
16 marked for Identification.)

17 MR. ANGELOS:

18 Q. Mr. Bell, I want to show you what we  
19 have marked as Plaintiff's Exhibit 11,704. Take  
20 a look at that.

21 MR. GUSTAFSON: Thank you.

1           Q.    Sir, this is a document dated October  
2    27, 1971, to a Dr. C.I. Lewis from J.H. Bell.  
3    And the subject matter is called, "An approach to  
4    the reduction of the tumorigenicity of cigarette  
5    smoke condensate." Ask you if you recognize this  
6    document.

7           A.    I don't remember this document.

8           Q.    Did you write this document?

9           A.    I would assume so.

10          Q.    Why would you assume so?

11          A.    Because my name's on it.

12          Q.    Are you familiar with it now, sir?

13          A.    I've scanned it.

14          Q.    Can you give me a basic overview of  
15    what you were writing about to Dr. Lewis back in  
16    October of 1971, what this project was about?

17               MR. GUSTAFSON: I'll object to the form  
18    of the question.

19          A.    You mean summarize this whole document?

20          Q.    Well, just a little brief overview, if  
21    you can, in so many words tell us what you were

1     proposing or what the purpose of this document  
2     was to Dr. Lewis.

3             MR. GUSTAFSON: Object to the form.

4             A. It's hard to summarize. This is very  
5     involved, detailed plan, and I'm not sure how to  
6     break it down into something simple.

7             Q. As a very involved and detailed plan,  
8     what was your ultimate goal of this involved and  
9     detailed plan? What were you attempting to  
10    accomplish with this plan?

11            A. The first part of this would be to  
12    isolate the fraction of cigarette smoke  
13    condensate or some other condensate, 'cause it  
14    goes into something other than tobacco here, and  
15    try to isolate those agents that cause tumors  
16    when painted on the backs of mice into a fraction  
17    that we can identify what those agents are.

18            Cigarette smoke being so terribly  
19    complex, you can't profile or look at the entire  
20    composition of cigarette smoke. You have to try  
21    to reduce the number of components that you're

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1 looking at in order to identify them.

2 So the first part of this is describing  
3 what has been reported in the literature from  
4 other research laboratories and a proposal of  
5 isolating a formic acid fraction. And then maybe  
6 from that fraction we could identify the  
7 components that may be responsible for the  
8 tumorigenicity.

9 Q. Okay. The formic acid fraction, is  
10 formic acid a constituent of cigarette smoke  
11 condensate?

12 A. It is a constituent of cigarette smoke  
13 condensate.

14 Q. And I'm sorry. You were....

15 A. But this is using formic acid from a  
16 reagent bottle as a solvent to extract or  
17 partition components into that solvent.

18 Q. And what particular partitions are you  
19 looking for in this specific study?

20 A. I don't understand the question.

21 Q. By the use -- with the use of formic

1 acid, which specific constituents of the  
2 cigarette smoke condensate are you trying to  
3 isolate?

4 A. Well, gosh, I don't think -- I don't  
5 think we knew then. I don't think I could tell  
6 you now. That's a very, very unique solvent,  
7 that would have -- and I think this is -- this  
8 came from another laboratory. But it -- it would  
9 partition in a different way than anything I can  
10 think of.

11 So it was just very unique solvent, to  
12 use formic acid; formic acid being a very, very  
13 strong organic acid. So this was something that  
14 would be, you know, quite unique and different.

15 I can't tell you what compounds would  
16 be in there. Possibly nitrogenous compounds  
17 would be, maybe be in that component -- be in  
18 that extract. And, apparently, some polycyclic  
19 hydrocarbons would probably be in there, too.

20 Q. Was there a specific constituent you  
21 were trying to identify or isolate by using the

1 formic acid?

2 A. No, no.

3 Q. What was the purpose of using the  
4 formic acid other than other materials that could  
5 help separate the smoke condensate?

6 A. Because the Harrowgate Laboratory, as  
7 explained on page two, had -- had developed this  
8 method, and they had used formic acid in their  
9 studies. And according to what I've written  
10 here, you know, it's like a different approach to  
11 get to some activity, to isolate this activity in  
12 a smaller fraction.

13 And then I went on to say we could take  
14 that fraction and separate the constituents by  
15 another scheme and get -- separate that fraction  
16 into two additional fractions, as outlined on  
17 page two, number five.

18 Q. The Harrowgate study, what is your  
19 basis of knowledge of this study? Where did it  
20 arise from? How did you come to understand the  
21 nature of the Harrowgate study?

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1           A.    It was published in the literature, I  
2   suppose.

3           Q.    And approximately what year? Was this  
4   around 1971, when this study was published?

5           A.    I would assume it was, you know,  
6   approximately 1970.

7           Q.    Did you personally read the study on  
8   your own, or was this someone assigned it to you?  
9   How did you come about to recognize or read this  
10   study?

11          A.    I don't remember. It was probably in  
12   the library, and someone could have called my  
13   attention to it, or -- I don't remember how I got  
14   on to that.

15          Q.    Okay. Was -- or did the Harrowgate  
16   study use formic acid in an effort to isolate  
17   benz(a)pyrene?

18          A.    I'm not sure why they -- how they came  
19   up with this, how it was developed; if they used  
20   it -- as a matter of fact -- I don't remember.

21          Q.    Okay. Did you -- were you attempting

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1 to reproduce this study or add additional design  
2 elements to it? Or what was the purpose of what  
3 you were attempting to arrive at here?

4 A. I think that the attempt was that we  
5 had, as we discussed this morning, a B fraction,  
6 and that was -- I think the B fraction of  
7 cigarette smoke was roughly two or three percent  
8 of the total condensate or tar. This took it --  
9 smoke condensate or tar. I'll use tar; it will be  
10 simpler for you.

11 It's my best recollection that the  
12 formic acid fraction perhaps was a smaller  
13 fraction than the two or three percent. So then,  
14 now you're eliminating some components and making  
15 this fraction more easily to get at and identify  
16 the composition of.

17 And then, we were going to separate  
18 that fraction into two parts, again, refining the  
19 active components. At that point, as I say here  
20 on page two, number six, after the development of  
21 the complete formic acid profile, our next step



1 is to measure this profile for condensate as a  
2 known activity, such as 1R1, Old Gold. These  
3 are -- these are cigarettes where -- okay.

4           You have a profile of this fraction.  
5 And a profile means that you have some indication  
6 of what's in there and the concentration of  
7 what's in there. Now you take a whole slew of  
8 additional cigarettes that you have biological  
9 activity on, which is in the literature, that you  
10 can pick up from the literature. And if we went  
11 back and got the profile from those cigarettes,  
12 it might show us which components are the active  
13 constituents.

14           And that's what this is all about, is  
15 an approach to a very complex problem that's --  
16 hasn't been solved and probably never will be  
17 solved.

18           Q. Okay. When you read that it read that  
19 paragraph, you said no activity, such as 1R1.  
20 What is 1R1?

21           A. That's a Kentucky referenced cigarette,

1     made at the University of Kentucky, and they made  
2     a cigarette that would replicate all the  
3     cigarettes on the market, American blend  
4     cigarettes. And it was 100 --- a 85-millimeter,  
5     nonfilter cigarette. And everyone uses -- around  
6     the world uses that as a reference. And it's  
7     still being used as a reference cigarette.

8           Q.    And you said that there was a known  
9     profile of that, of the 1 R?

10          A.    No, we'd have to generate that profile.

11          Q.    Okay.

12          A.    No. What I said was you could  
13     probably -- the activity -- this cigarette has  
14     been used in a lot of the painting experiments.  
15     The NCI used 1R1 as their control in all their  
16     testing, so that these -- the biological activity  
17     of those products can be gotten from the  
18     literature. So what we have to do is develop --  
19     is to produce the profile of the formic acid  
20     fraction profile.

21          Q.    How does that compare to what's in the

1 literature here? What is contained in the  
2 literature with respect to this profile of the  
3 1R1, as you described?

4 A. There is no profile. There is no  
5 profile.

6 Q. All right. Are there some baseline  
7 values or at least for the 1R1, this Kentucky  
8 brand cigarette, are there already -- has there  
9 already been accomplished a smoke condensate  
10 analysis of the components of this 1R1 cigarette?

11 A. We have the -- I think as many -- many  
12 data points on the whole tar, but not -- probably  
13 not fractions of that tar. There's probably not  
14 activity on the fractions of that tar. Certainly  
15 no one profiled this formic acid fraction that I  
16 am describing in this report.

17 I don't know -- you know, this probably  
18 was put in a drawer somewhere and left until you  
19 found it. I don't -- we never did do this work.  
20 This is just -- this was just an approach, but I  
21 don't think we ever did this work.

1                   It was probably shot down when it got  
2 up to some higher management levels. You have to  
3 remember that I'm just a bench chemist.

4           Q.    Let me show you this document here.

5                   MR. ANGELOS: Let's mark it 11,705.

6                   (Deposition Exhibit Number 11,705 was  
7 marked for Identification.)

8           Q.    And this is dated March 4th, 1975, and  
9 it's talking about testing these formic acid  
10 subfractions. Was work performed on this or not?

11           A.   Well, I'm talking about profiling and  
12 not testing the fraction itself. Let me just see  
13 what this is.

14           A.   Okay.

15           Q.   Now, were you able to develop the  
16 formic acid subfractions as you've --

17           A.   Yes, we did. We -- apparently, it's  
18 shown here that we partitioned the formic acid  
19 fraction into six fractions. And we certainly  
20 appeared to be prepared for a painting experiment  
21 on those subfractions.

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1           Q.    So, at least from the period October  
2    27, 1971 to March 4th, 1975, when you authored  
3    this second document marked as 11,705, you were,  
4    in fact, able to isolate those formic -- those  
5    fractions with the use of the formic acid  
6    substrate. Is that what took place?

7           A.    It appears that we subfractionated the  
8    formic acid fraction into six subfractions.

9           Q.    Yes? Oh, I'm sorry.

10          A.    Yes, I'm just waiting for a question.

11          Q.    Let me go back to the first document,  
12    the one that you have also in front of you. And  
13    it will be on page two. You wrote in the last  
14    paragraph, "If we can predict with reasonable  
15    accuracy the tumorigenicity of smoke condensates  
16    from the FAF profile, we can move into the second  
17    phase of this project to make a safer cigarette."

18                Is the memorandum, dated March 4th,  
19    1975, does that memorandum reflect that you were  
20    able to successfully determine the smoke  
21    condensates from this formic acid profile?

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1           A.    Were we able to determine the smoke  
2   condensates -- I don't understand the question.  
3   Sorry.

4           Q.    Based upon your reading of the March  
5   4th, 1975, document that you authored and also  
6   the original document from 1971 that we looked  
7   at, were you able to predict with reasonable  
8   accuracy the tumorigenicity of smoke condensates  
9   from this FAF profile?

10          A.    No, we couldn't do that. This -- this  
11   document indicates that we were -- it looks like  
12   that we were preparing for an animal testing  
13   experiment. I don't remember the results of that  
14   experiment. You may have them. I don't remember  
15   the results. But it -- what we did in '95 and  
16   what we're proposing --

17          Q.    '75?

18          A.    '75, excuse me, and what was proposed  
19   in '71 is somewhat -- somewhat different. We're  
20   talking about a profile, and I know that word may  
21   be hard to understand in the context that it's

1     used here.

2             The profile that I had in mind would be  
3     like a gas chromatogram. I don't know if you're  
4     familiar with that or not, but electrocardiogram  
5     or whatever, some type of chart that would be  
6     actually a profile of that fraction, showing  
7     components in concentrations.

8             I don't think we -- we did some of  
9     that, but not in connection with any biological  
10    study. We did it from another standpoint.

11            But this isn't -- getting a fraction,  
12    as this memorandum talks about, is not a profile.

13            It's just a subfractionization. And we still  
14    wouldn't know what's in these fractions until we  
15    analyzed them. And at this point I don't -- I  
16    don't think we did that. I don't think we  
17    analyzed those fractions and we found out what  
18    could be contributable to the activity.

19            Q.    Why wouldn't you have completed the  
20    test and examined the next step?

21            MR. GUSTAFSON: Object to the extent it

1 requires speculation.

2 A. Well, that's a good question. I don't  
3 know the answer. I don't remember the -- you  
4 know, where -- where this ended up or where this  
5 got. I don't even know if this was painted.

6 I assume that we went to all this  
7 work -- and this is a lot, a lot a work in here,  
8 many, many manhours -- that that was probably  
9 painted. I don't know what the results were.

10 The rules may have been so  
11 unexplainable that we just killed the whole  
12 approach. I don't know. I really don't know the  
13 answer to that.

14 Q. Would Jimmy Bell have been able to kill  
15 the whole approach, or would it have been someone  
16 else that would have made that decision?

17 A. No, I wouldn't I wouldn't -- I wouldn't  
18 have been able to make that determination. It  
19 would have been --

20 Q. In 19 -- I'm sorry.

21 A. It would have been some management



1 person.

2 Q. In 1971, Jimmy Bell said that if we  
3 can -- you know, if we can predict and follow  
4 through this entire approach, then we can move  
5 into the second phase of the project to make a  
6 safer cigarette. Did you say that in 1971?

7 A. Yes.

8 Q. Okay. And if we continued on with  
9 this, as the '75 memo says, continued on with the  
10 mouse painting studies and determined these --  
11 ultimately these subfractions, if that project  
12 was carried through and successful, is it fair to  
13 say Jimmy Bell could have said that in 1975 or  
14 sometime forward, "We have created a safer  
15 cigarette"?

16 MR. GUSTAFSON: Objection, inadequate  
17 foundation, requires speculation, inadequate  
18 context.

19 A. You're logic is good, assuming that  
20 Jimmy Bell is so smart that his proposal here is  
21 actually on target and that this had worked. You

1 know, it's reasonable.

2 But, you know, if everything I proposed  
3 worked out just like I wanted it to, I would be  
4 head of the company, maybe, like Dr. Spears is.

5 But, you know, I don't know what happened.  
6 Apparently, I was really surprised that we worked  
7 on it this long. I don't remember that.

8 But, obviously, we did. And we took  
9 that pretty far along, and I don't know what  
10 happened after this. I really don't.

11 Q. Will we ever know or is there any way  
12 to know whether Jimmy Bell was right in his  
13 theories and system and we could make a safer  
14 cigarette?

15 MR. GUSTAFSON: Objection, requires  
16 speculation.

17 A. Yeah, I don't know how to answer that.

18 Q. Was it your -- I'm sorry.

19 A. It's probably all in the files  
20 somewhere, what happened, about what went on  
21 next. But I don't remember who -- you know,

1 we -- we worked in a lot of different things a  
2 lot of different times. And although at this  
3 time this was my main focus, I admit; apparently  
4 we got onto something else and maybe another  
5 approach that someone else had.

6 We never gave up on trying to identify  
7 what's in cigarette smoke. We've never given up  
8 on that. We worked on that all of my 40 years.

9 In this particular case something  
10 bugged out on it, and I don't remember what it  
11 was. I would imagine it was the painting results  
12 that we got that didn't -- that led us to a dead  
13 end, and we could not interpret -- in other  
14 words, if the activity had been spread in this --  
15 in this separation scheme, if the activity had  
16 been spread among all of those six fractions and  
17 was no distinction, then we'd be dead in the  
18 water.

19 Q. Did you write any memorandums or any  
20 type of documents like this that would address  
21 that issue that you just described?

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1           A.    No, because I handled smoking of  
2   cigarettes and the separation of cigarettes as a  
3   chemist in the laboratory, and I did this  
4   fractionization scheme -- I'm sure I did that --  
5   and got those fractions ready. But then the  
6   biological group or someone else or maybe the  
7   management team would get results back wherever  
8   we sent this. I don't even know where this would  
9   go to be tested.

10           But, I wouldn't -- I wouldn't -- I'm  
11   not into that biological end of it, and I don't  
12   know what -- I probably saw the results, but I  
13   certainly wouldn't have interpreted them.  
14   Somebody else would, and maybe that's where it  
15   bogged down.

16           Q.    But you don't know for sure?

17           A.    I don't know for sure what happened  
18   to this. I would imagine what happened, and  
19   that's -- well, I shouldn't speculate.

20           Q.    Let me ask you, Mr. Bell, who was in  
21   charge -- who was your supervisor on March 4,

1           A.    No, because I handled smoking of  
2   cigarettes and the separation of cigarettes as a  
3   chemist in the laboratory, and I did this  
4   fractionization scheme -- I'm sure I did that --  
5   and got those fractions ready. But then the  
6   biological group or someone else or maybe the  
7   management team would get results back wherever  
8   we sent this. I don't even know where this would  
9   go to be tested.

10           But, I wouldn't -- I wouldn't -- I'm  
11   not into that biological end of it, and I don't  
12   know what -- I probably saw the results, but I  
13   certainly wouldn't have interpreted them.  
14   Somebody else would, and maybe that's where it  
15   bogged down.

16           Q.    But you don't know for sure?

17           A.    I don't know for sure what happened  
18   to this. I would imagine what happened, and  
19   that's -- well, I shouldn't speculate.

20           Q.    Let me ask you, Mr. Bell, who was in  
21   charge -- who was your supervisor on March 4,

1 1975?

2 A. I think it was Dr. Minnemeyer.

3 Q. Let me just go to page three of this  
4 document, the 1971 document, 11,704. We're on  
5 page three; that's the second to the last  
6 paragraph.

7 You state that -- or you wrote, "If we  
8 can increase the tumorigenicity of CSM with  
9 certain additives, we should be able to decrease  
10 the activity of our cigarettes by the elimination  
11 or the reduction of the same types of compounds."  
12 What is CSM?

13 A. Cigarette smoke -- wait a minute.

14 Q. The paragraph above.

15 A. Wait, wait.

16 Q. I'm sorry.

17 A. That's not right. It's -- okay. That  
18 was Celanese Cytrel. That's a synthetic smoking  
19 material that Celanese made, in the next  
20 paragraph. Celanese Cytrel.

21 Q. And what was that? I'm sorry. You

1       said it was --

2           A.    Okay.  It's a synthetic smoking  
3       material.

4           Q.    Where does that go, as far as the  
5       cigarette's concerned?

6           A.    This was a -- Celanese, in Charlotte,  
7       produced a sheet, a material similar to tobacco,  
8       but synthetic tobacco.  It's not real tobacco,  
9       made up mainly of cellulose, that they wanted to  
10      sell to cigarette manufacturers to use in place  
11      of tobacco.  And it was called Cytrel.  And I  
12      guess it was coded CSM.

13                Since that was nontobacco, my  
14      suggestion here is that, okay, if take you that  
15      material and add the constituents in tobacco to  
16      that, you would -- you could see what role those  
17      constituents played in the tumorigenicity of the  
18      tar.

19           Q.    Okay.

20           A.    So it was another approach.

21           Q.    Was the Cytrel synthetic tobacco, did

1     it contain any carcinogens or -- did it contain  
2     any carcinogens?

3             MR. GUSTAFSON:  Objection, vague and  
4     ambiguous and mischaracterizes his testimony.

5             A.  As a matter of fact, it had more  
6     benz(a)pyrene than tobacco, because it's -- it's  
7     just a material that you burn.  Anything you burn  
8     is going to produce benz(a)pyrene, and it was --  
9     it had a lot of benz(a)pyrene in it.

10            Q.  Okay.  So what usefulness would it be  
11     in the cigarette that already contained the  
12     benz(a)pyrene, as far as the safety factor,  
13     dealing with an ultimate cigarette that's  
14     consumed by the public?

15            A.  Well, this material was tested in  
16     the -- in the Cancer Institute studies.  It was  
17     submitted as a material to be tested.  And I  
18     think it proved to be more biologically active  
19     than cigarettes.  And it was dropped.  It doesn't  
20     exist anymore.

21            Q.  Did you know that before you made this

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1 proposition, as far as utilizing it in the  
2 context of your experiments here?

3 A. No, I did not know that.

4 Q. Okay.

5 A. However, it wouldn't have made a  
6 difference. What I'm proposing here was to add  
7 things to increase whatever that level is, to  
8 increase it. And if you add something that  
9 increases it, then you know that what you added  
10 has some positive effect on the activity.

11 Q. Does Celanese also produce the  
12 cigarette filters for Lorillard?

13 A. We buy cellulose acetate from Celanese.

14 Q. When you wrote the 1975 memorandum,  
15 which is Plaintiff's Exhibit 11,705, do you  
16 recall who Dr. Minnemeyer's supervisor was at  
17 that time?

18 A. It had to be one of two people.

19 Q. Which one -- which --

20 A. It would be either Dr. Schultz or  
21 Dr. Spears.

1           Q.   And it's your testimony that -- that  
2   the individuals, the person that could have given  
3   consent for this project to go forward is at  
4   least someone other than you. Is that fair to  
5   say?

6           A.   To go forward with this?

7           Q.   Yes.

8           A.   Oh, yes. Oh, yes, someone would have  
9   to okay it.

10          Q.   Now, in this memorandum you outlined  
11   almost the protocol on how to paint the mice and  
12   which doses and things of that nature; is that  
13   correct? Quantities. I don't want to use the  
14   word "doses." Quantities.

15          A.   Yes, that's correct.

16          Q.   And you relied on Dr. Dietrich Hoffmann  
17   for some of the recommendations you made as far  
18   as the quantities or concentrations of how much  
19   tar would be applied to the mice; is that  
20   correct?

21          A.   I would have had to have got that

1 information from, you know, from somewhere.  
2 Maybe reading protocols or getting it directly  
3 from someone, yes.

4 Q. You stated -- it says, "I do not feel  
5 qualified to make a recommendation on this,"  
6 and you're referencing the above sentence, about  
7 the concentration of benzo(a)pyrene. But you  
8 state, "However, based on the information I  
9 received from Dr. Hoffmann," and then it goes on.

10 Do you recall in what manner you  
11 received the information from Dr. Hoffmann?

12 A. I don't recall specifically. Possibly  
13 by telephone.

14 Q. So you had a relationship with  
15 Dr. Dietrich Hoffmann in which you could have  
16 picked up the phone and discussed at least the  
17 protocol for this type of experiment, and he  
18 would have, I guess, given his thoughts to you?

19 A. Yes, something like that. Sure.

20 Q. Okay. Where was Dr. Hoffmann employed  
21 at that time, in 1975?

1           A.    He probably had -- was with the  
2   American Health Foundation.

3           Q.    And that was his organization that he'd  
4   been with for, I guess, at least 15 years prior?

5           A.    Dr. Wynder's organization.

6           Q.    Okay. And when you say Dr. Wynder, is  
7   that W-Y-N-D-E-R? Is that the way he spells it?

8           A.    Yeah.

9           Q.    Okay. And was this the same -- strike  
10   that. Were mice painting experiments or did you  
11   anticipate that this mice painting experiment  
12   would have taken place at Dr. Hoffmann's lab?

13          A.    I can't be really sure on that. I  
14   think it probably was.

15          Q.    Okay. Was there any in-house mice  
16   painting labs at Lorillard in 1975?

17          A.    No.

18          Q.    You state under "Promotion Stage"  
19   that -- or you recommend that other test groups  
20   of the mice, that they be dosed with point one 5  
21   milligrams of croton oil, C-R-O-T-O-N. What is

1 croton oil?

2 A. Croton oil is a natural extract of  
3 something that has this phorbol ester, which is a  
4 known tumor-promoting agent, very strong  
5 tumor-promoting agent.

6 Q. You called that a phorbol ester?

7 A. Phorbol ester.

8 Q. Is that printed on the document  
9 somewhere?

10 A. Yes, P-H-O-R --

11 Q. Okay.

12 A. -- B-O-L.

13 Q. Okay. Is phorbol ester contained in  
14 cigarette smoke condensate?

15 A. No, it's not.

16 MR. GUSTAFSON: Sounds like the name of  
17 a drink to me.

18 Q. And you say at the top of the page that  
19 the concentration of benz(a)pyrene -- You state  
20 at the top of the page that the concentration of  
21 the benz(a)pyrene is the critical factor in the

1 experiment. Can you explain what that means and  
2 why you said that?

3 A. Okay. I don't feel authoritative in  
4 this animal painting issue here that we're  
5 talking about, but it's my understanding that  
6 it's quite difficult -- it's not easy to take  
7 tar, paint on mice and get tumors. I mean, you  
8 could paint those things forever.

9 So what they do, they put in -- they  
10 take a carcinogen, like benzo(a)pyrene, although  
11 they don't use that now; they use some other  
12 compounds. But they take a known carcinogen,  
13 like benz(a)pyrene, animal carcinogen. They  
14 paint that on the animal as an initiating dose to  
15 start the process, whatever that biological  
16 process is.

17 And then they come back, and they paint  
18 a known promoter, which is a phorbol ester. And  
19 then after that, they paint for every day,  
20 usually every day, with tar. And at the end of  
21 18 weeks -- 18 months or something, you get --

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1     you have tumors on the backs of the mice.

2                 So the dose of the benz(a)pyrene is  
3     critical. If you don't put that on there or if  
4     you don't use a phorbol ester, you probably won't  
5     get any tumors.

6                 Q.    Okay.

7                 A.    So it's not easy to get the tumors off  
8     the backs of the mice with tar.

9                 Q.    At the point in 1975 had you isolated  
10    or identified any known promoters in the  
11    cigarette smoke condensate?

12                A.    Had I isolated any known promoters?  
13    Not to my knowledge. We worked -- we worked with  
14    phenol, as we discussed this morning, and the  
15    phenolic fraction, and we studied those.

16                But whether -- you know, whether or not  
17    they're really important in to this tumorigenicity  
18    we're talking about with mice in the real world,  
19    I don't know. But we -- you know, we did analyze  
20    for the phenol.

21                Q.    As of your retirement in July of 1998,

1 had your lab or Lorillard isolated any known  
2 promoters of -- similar to -- any known promoters  
3 of the carcinogenic effects of the cigarette  
4 smoke condensate?

5 MR. GUSTAFSON: Objection to the extent  
6 it requires speculation.

7 A. No, we have not identified any.

8 Q. And just turning back to 11,704, the  
9 October 1971 memo, who is Dr. C.I. Lewis?

10 A. He's a research chemist, worked in this  
11 research group for a number of years. And then I  
12 think I was probably reporting to him in 1971.

13 Q. What's his first name?

14 A. Claude.

15 Q. Claude?

16 A. Claude I. Lewis.

17 Q. And were you also reporting to  
18 Dr. Spears in 1971?

19 A. You know, I -- I've got four or five  
20 bosses up above me and always have had. And I  
21 think Dr. -- Probably Dr. Lewis was reporting to



1 Dr. Spears or maybe -- or maybe. I don't know  
2 where Dr. Spears was in 1971. I don't know  
3 whether he was head -- I don't know if he was  
4 head of research or not at that time.

5 Q. Okay. Is it your understanding that  
6 Dr. Lewis was at least a lower point in the  
7 hierarchy of the administration there in the  
8 research department?

9 A. Than Dr. Spears?

10 Q. Yes, sir.

11 A. Yes, I'm sure he reported to  
12 Dr. Spears. But I don't know whether Dr. Spears  
13 was the head man or not.

14 Q. Okay. Let me ask you on the same  
15 document, marked 11,704, you have a -- kind of a  
16 schematic, where you start off ten grams. I  
17 don't have a page number. I got it. It's  
18 number -- page six, where you start off with ten  
19 grams of dried condensate, and after, I guess,  
20 one, two, three, four, approximately nine  
21 separation steps, you come down to two fractions

1 at the bottom. Do you see that, sir?

2 A. Yes.

3 Q. Okay. Fraction A and fraction B, is  
4 fraction B essentially the -- in layman's terms,  
5 the tar fraction from this original sample?

6 A. No. The ten gram, that's tar --

7 Q. Okay.

8 A. -- at the top. And then you just, you  
9 know, fractionate. It's all tar, fractions of  
10 tar.

11 Q. Understood. And you have a question  
12 mark under fraction B. Why is there kind of an  
13 unknown or question mark there? Way at the  
14 bottom, when you've completed your separations.

15 A. I think that says don't know what  
16 to do with that. On over on A, we say gas  
17 chromatograph. That would give us the profile  
18 that I was talking about.

19 Q. And is that reflected on the next page  
20 with the peaks?

21 A. Yes.

1 Q. Did you -- at least for the fraction B,  
2 did you also run that on a gas chromatograph and  
3 obtain peaks for that, as well?

4 A. No. You see under the benzene, it  
5 says, "evaporate and distill under vacuum"? Well,  
6 gas chromatography is a system that depends on  
7 separation by heat. And this undistilled amount  
8 would be too high boiling. You could never run a  
9 gas chromatograph on it. So you'd have to  
10 profile it by some other means.

11 Q. Did you determine another means to  
12 profile this other fraction?

13 A. Not -- not in '71. You know, later  
14 they were probably techniques, but not at that  
15 time. And that's -- I think that's why the  
16 question mark is there; that we didn't have  
17 the -- didn't know how to do it at that time.

18 Q. Okay. But up it's fair to say in 1975,  
19 with your next memorandum, you had determined a  
20 way to do that, and based upon the results of  
21 that method, you were able to progress with the

1 mouse painting studies?

2 A. No.

3 MR. GUSTAFSON: Objection,  
4 mischaracterizes his testimony.

5 A. No. We -- apparently between the '71  
6 and this, we didn't pursue -- we did this work.  
7 I remember -- I remember distilling these  
8 fractions or to get fraction A. Well, wasn't  
9 this fraction A?

10 John, I think we -- we took formic acid  
11 fraction here, and we didn't do this type of  
12 distillation. We went to the solvent  
13 partitioning, instead of this.

14 Q. Okay. Let me ask you another question  
15 in the context of documents you have in front of  
16 you.

17 MR. ANGELOS: We're going to go ahead  
18 and have this marked as 11,706.

19 (Deposition Exhibit Number 11,706 was  
20 marked for Identification.)

21 Q. Take a look at that, sir.

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1 A. (Complying.)

2 Q. For the record, this is  
3 a document dated January 12th, 1973,  
4 submitted by Dr. A.M. Ihrig, I-H-R-I-G,  
5 and it's entitled, "Chloroform,"  
6 C-H-L-O-R-O-F-O-R-M, "extract."

7 Sir, I'm going to ask you to stop at  
8 the second paragraph, so we can see where we  
9 stand on this one first. I see on the last a  
10 page that this document, according to the author  
11 was cc'd to Mr. James Bell. Would that be you?

12 A. Yes.

13 Q. Can you identify the author? Who is  
14 Dr. A.M. Ihrig?

15 A. He's a physical chemist that worked in  
16 product development.

17 Q. First name?

18 A. Art, Arthur.

19 Q. And this memorandum, dated January 12,  
20 1973, is addressed to Mr. C.L. Tucker. Who is  
21 that?

1           A.    That's Charles Tucker, and I -- he was  
2    director of product development.

3           Q.    Okay.  Was Dr. Ihrig working  
4    concurrently with you on the formic acid fraction  
5    testing, as he indicates in paragraph two?  He  
6    doesn't say he was doing it with you, but was he  
7    working concurrently on the fraction, on the  
8    formic acid fraction of cigarette tars?

9           MR. GUSTAFSON:  Objection to form.

10          A.    No, no.  He was not.

11          Q.    Okay.  Do you have any knowledge about  
12    this, the use of chloroform in the formic acid  
13    tests that you participated in?

14          A.    I don't remember this work.  I don't --  
15    I don't remember this work at all.  Whether -- I  
16    remember vaguely some -- some formic acid  
17    extract.  But, you know, I don't remember -- I  
18    don't remember doing it.

19          Q.    Is there, if you know, a reason why Dr.  
20    Ihrig would cc this document to you?

21          MR. GUSTAFSON:  Objection, calls for

1 speculation.

2 A. I think it's likely that I did the  
3 extract and supplied him some cigarettes or  
4 something for analyses. And he may have done  
5 some analysis and sent me the report back.

6 Q. Okay. Did you provide him the  
7 chloroform to use in his analysis?

8 A. The chloroform extract?

9 Q. Yes, sir.

10 A. I think I probably did.

11 Q. Okay. Did you at any time discuss  
12 these results of the increase in expected  
13 quantity of nicotine with Dr. Ihrig or anyone  
14 else related to this issue?

15 A. After this came out, did we sit down  
16 and discuss this?

17 Q. Or in the course when you were  
18 requested to provided chloroform extract, did you  
19 sit down and discuss any of the results or  
20 anything related to this project?

21 MR. GUSTAFSON: Objection, compound.

1           A.    I don't remember discussion discussing  
2    it.

3           Q.    Okay. Were you working on any projects  
4    in this 1973 time frame dealing with nicotine?

5           A.    No.

6           Q.    Dr. Ihrig states on page two in the  
7    third paragraph that, "All ten members of the  
8    panel agreed that the chloroform extract improved  
9    the flavor."

10                  Do you know what panel or I -- let me  
11   ask you. Was there some type of testing or  
12   tasting panel in your laboratory that this  
13   doctor's referring to?

14           A.    Yes, that's right. We had a smoking  
15   panel.

16           Q.    Who were the people that were --

17           A.    They were product development people,  
18   and the composition of that has changed many,  
19   many times over the years, and I have no idea.  
20   Just most of all the product development people  
21   were on that.



1           Q.    They were employees of the company in  
2   the product development department, and they also  
3   participated in kind of tasting or tasting of the  
4   smoking devices?

5           A.    Right. Right.

6           Q.    Did you ever participate in that  
7   yourself?

8           A.    Not officially. I -- you know, I  
9   smoked cigarettes. And if I did something, then  
10   just out of my own curiosity, I would smoke it.  
11   But not officially, 'cause I don't have that  
12   expertise, except for the gun powder.

13          Q.    Did you ever smoke any of those ones  
14   that tasted like maple, tasted like maple  
15   extract?

16          A.    I probably did.

17          Q.    Now, you're under oath. Are there any  
18   other sick flavored cigarettes that you created  
19   and made yourself that you only smoked for your  
20   own personal taste?

21               MR. GUSTAFSON: But did you inhale?

1 Did you inhale the smoke?

2 A. I have never smoked marijuana.

3 Q. It's interesting you mentioned that  
4 word, and in review of some documents, there was  
5 some mention by Lorillard Tobacco Company in the  
6 investigation of using marijuana as either an  
7 additive or a supplement to the cigarettes. Do  
8 you recall that?

9 A. No.

10 Q. No? Was there any discussion among  
11 your research group from the entire period you  
12 were there dealing with anything related to  
13 marijuana and its use concurrently with  
14 cigarettes or in some type of fashion -- using  
15 marijuana in any type of Lorillard cigarettes?

16 A. Not -- not anything serious, no.

17 Q. When you say nothing serious, was there  
18 any --

19 A. There could have been jokes about it or  
20 something, but --

21 Q. Okay. Let me show you this.

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1 MR. ANGELOS: Let's go ahead and mark  
2 it then. Mark this 11,707.

3 (Deposition Exhibit Number 11,707 was  
4 marked for Identification.).

5 Q. This is a handwritten letter written by  
6 Fred, and for the purposes -- well, I'll --  
7 concerning a conversation that took place in  
8 1972, addressed to Dr. Spears.

9 And the first paragraph states, "The  
10 attached list of present or possible future  
11 projects is a result of discussion between myself  
12 and Drs. Minnemeyer," I'm going to say, "Lawes,  
13 Tong," and looks like "Messrs. Bell and Wagner."  
14 Do you see that in the first paragraph?

15 A. Yes, I do.

16 Q. And it's authored by someone named  
17 Fred, it says on the second page. If you were  
18 sitting around in a meeting with these gentlemen  
19 in 1972, would that Fred person have been Dr.  
20 Schultz, Dr. Fred Schultz?

21 A. I think so.

1 Q. Did you have -- all right. Let me ask  
2 you to turn to the last page of the entire  
3 document. You can take time to read it.

4 Let me ask you this. Did you get a  
5 chance to take a look at this and read it and see  
6 what it says?

7 A. No, uh-uh.

8 Q. And see if you reca'll this meeting or  
9 this discussion among this group of your  
10 colleagues.

11 A. (Complying.)

12 Q. Mr. Bell, I'm only going to ask you  
13 about the last one, so you can kind of skip  
14 over --

15 A. Okay.

16 Q. The last one on the last page, there's  
17 a little -- the last paragraph says, "marijuana,"  
18 and it says -- it's written, says, "Obtain  
19 background information in this area by surveying  
20 and monitoring the literature. Investigate the  
21 possibility of making marijuana cigarettes on

1 government contract for investigative purposes  
2 and contract for investigating same. Project  
3 objective would be to in advantageous position in  
4 the event marijuana were legalized and Lorillard  
5 wished entry into the field."

6 Was that your suggestion to the group  
7 at this meeting in '72?

8 A. No. No, it wasn't my suggestion.

9 Q. Let me ask you this, in all candor.  
10 Was this a reasonable discussion or suggestion  
11 issued back in 1972?

12 MR. GUSTAFSON: Object to the form,  
13 vague and ambiguous.

14 A. Is this suggestion with the marijuana  
15 reasonable? Yeah, it might be a reasonable  
16 suggestion. But I can tell you, it would have  
17 never been considered serious, because I think it  
18 was known that if anyone brought marijuana in  
19 close to that manufacturing site, they would be  
20 out of there really fast.

21 And I think -- I'm surprised that's

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1 even in here, but if it's legalized and we were  
2 in -- you know, we could manufacture it, then,  
3 you know, it would be all right.

4 Q. Okay. Let me show you a document I'm  
5 going to mark as 11,708.

6 (Deposition Exhibit Number 11,708 was  
7 marked for Identification.)

8 Q. Let the record reflect that  
9 Mr. Gustafson believes that the State of  
10 Kansas should consider the --

11 MR. GUSTAFSON: No.

12 MR. ANGELOS: It's determined in 1998  
13 that marijuana is illegal in the State of  
14 Kansas --

15 MR. GUSTAFSON: I object strenuously to  
16 this colloquy there's absolutely for foundation  
17 whatsoever for those statements.

18 Q. Sir, I showed you a document under  
19 Lorillard letterhead, dated June 28, 1979, and  
20 I'm going to ask you to go ahead and turn forward  
21 specifically to page -- and there are no actual

1 page numbers, but it's going to be like what they  
2 call Bates numbers, called 187 are the last  
3 digits. It's probably about half way, a little  
4 less than halfway through. And that page in the  
5 upper left-hand corner will say, "J.H. Bell."

6 A. Oh.

7 Q. See that?

8 A. Yeah.

9 Q. Let me ask you. This document is  
10 authored by S.T. Jones. Do you know who that is?

11 A. Yes, I do.

12 Q. What's Mr. Jones' first name?

13 A. That's Steven Thomas Jones.

14 Q. And what department was he employed by  
15 at Lorillard?

16 A. In 1979, you know, I don't know where  
17 he was in 1979. I can tell you his history, but  
18 I don't know where he was in 1979.

19 Q. Is he still employed by the company?

20 A. Yes, he's the director of product  
21 development.

1 Q. And, at least on the -- it says xc,  
2 someone who would have received copies of these,  
3 it says Mr. J.R. Ave, on the front page?

4 A. Hm-hmm.

5 Q. What was his title, if you recall, in  
6 1979?

7 A. I think he was president of Lorillard,  
8 president of Lorillard.

9 Q. Is that the correct pronunciation?

10 A. Ave.

11 Q. And it also says Dr. Spears, and the  
12 next one is Mr. Goldbrenner. Who is that?

13 A. He was in our legal department.

14 Q. Okay. And what was his first name, do  
15 you know?

16 A. Ron. Ronald, I guess.

17 Q. Okay. Had you met Mr. Goldbrenner  
18 during the course of your employment of 40 years  
19 at Lorillard?

20 A. I knew him. We had met, but not very  
21 closely. He was in the New York office.



1 Q. All right. Back to that page, I kind  
2 of noted which ends in Bates number 187, I'd ask  
3 you to go ahead and read those three paragraphs.  
4 And my question is, is, were these -- Mr. Jones  
5 states in the front that these ideas are  
6 submitted by R and D. And I'm -- my question is,  
7 did you submit this idea to Mr. Jones while you  
8 were employed in the R and D, research and  
9 development department, at Lorillard?

10 A. Let me read these.

11 Q. Yes, please.

12 A. I would assume that I submitted these.

13 Q. Would you have submitted them to  
14 Mr. Jones or maybe your department head, if  
15 you recall?

16 A. I don't remember how they were derived.

17 Q. Okay. At least for number one on the  
18 suggestions, you state, "We should develop very  
19 efficient filters for the removal of carbon  
20 dioxide." and "I believe that's, NO<sub>2</sub>," which is  
21 nitrous oxide.

1           Do you know if that suggestion or  
2       recommendation was ever acted upon?

3           A.   Yes, I -- I think that there's work  
4       going on till now, up till I left the company,  
5       working on this issue.

6           Q.   Okay. And why did you suggest the  
7       removal of carbon dioxide in this situation here?  
8       Let me put it to you this way. What purpose  
9       would it serve to develop an efficient filter for  
10      the removal of carbon dioxide?

11          A.   That's a good question. I think carbon  
12      monoxide would have been a better one to remove.  
13      I don't know why I wanted to remove carbon  
14      dioxide.

15          Q.   Okay. How about for the nitrous oxide?  
16      What purpose would that serve?

17          A.   There are probably some people that  
18      think that they're probably -- that's a very  
19      active species, and that, you know if you can  
20      remove it from cigarette smoke, then the better.

21          Q.   When you say an active species, what do

1     you mean by that?

2           A.    It's just it's -- chemically, it's an  
3    active compound that can interact with a lot of  
4    other things in smoke. And, you know, although I  
5    don't know of any known diseases that is caused  
6    by this, if you can take it out, then, you know,  
7    it would -- it might be good to take it out, is  
8    my own personal opinion.

9           Q.    Okay. In number two, kind of go  
10   to the second sentence here, and you stated,  
11   "We should also investigate more fully,"  
12   quote/unquote, "impact so that we can simulate  
13   this effect with either a tobacco extract or  
14   chemical addition."

15                Could you tell us what you are  
16   discussing or talking about when you use the  
17   word "impact" in the context of this statement?

18           A.    It's hard to explain. When I use the  
19   word "impact," it has to do with the strength of  
20   the tobacco and how it feels at the back of your  
21   mouth and in the back of your mouth when you

1 smoke it.

2 If you smoke, you want some taste  
3 sensation, and impact is part of the thing that  
4 most people will say they want. For instance,  
5 flue-cured tobacco has a little bit of impact,  
6 but not much. Burley has a strong impact, and  
7 that's why we blend the two.

8 So when I use "impact," it has to do  
9 with that sensation or feeling in the mouth and  
10 throat that you get from smoking full-flavored  
11 cigarettes.

12 Q. Well, if you can get that impact from,  
13 I guess, the blending of the burley tobacco with  
14 the flue-cured tobacco, why would you want to  
15 simulate the effect with an extract or chemical  
16 addition?

17 A. Let me think. Let me try to figure out  
18 what I meant by this. '79, I think probably  
19 along this time frame that cigarettes were  
20 becoming lower and lower tar and nicotine  
21 yielding. I don't know when we developed Kent 3

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1 and the Triumph and the Golden Light, but these  
2 cigarettes were down to three milligrams of tar.

3 And, frankly, a lot of people don't  
4 like that low tar cigarette. They wanted -- they  
5 wanted more taste and more satisfying smoke. And  
6 I think probably where I'm coming from on this  
7 is, you know, if you can make that  
8 three-milligram tar cigarette taste like a  
9 ten-milligram cigarette, then everyone is better  
10 off. The consumer is satisfied, but yet they're  
11 getting less tar.

12 Q. In your almost 40-year history with  
13 Lorillard, did you ever identify, isolate, read  
14 about any tobacco extract or chemical addition  
15 that would permit you to get that ten-milligram  
16 tar flavor at a three-milligram level?

17 A. I mean, this is a classic problem in  
18 the cigarette industry that many people worked  
19 on. Flavor houses worked on this problem. It  
20 was, you know, research around the world working  
21 on this same issue.

1                   And I'm not in product development.

2       And, you know, I don't know if they were able to  
3       maximize the full flavor, nice tasting cigarette  
4       with the lowest possible tar yield. But, you  
5       know, that was our goal to do that.

6                   I'm sure they made inroads. I'm sure  
7       they found ways to improve that good, acceptable  
8       taste, as low tar as we could get. I'm sure  
9       that, you know, they worked on that. But I  
10      personally didn't work on that. That's -- I'm  
11      not in -- I wasn't in product development.

12           Q.     You were in research and development?

13           A.     Research.

14           Q.     Research.

15           A.     Basic research.

16           Q.     Did the research department also do  
17      work on nicotine while you were employed there  
18      for the 40 years?

19           MR. GUSTAFSON: Objection to form.

20           A.     Did anyone in research have -- yeah,  
21      that we studied. Nicotine was studied.

1           Q.    Okay.  Is it fair to say that for the  
2   entire 40 years that you were there that nicotine  
3   was studied?

4           MR. GUSTAFSON:  Objection to form,  
5   vague and ambiguous without context.

6           A.    As I say, you know, there were -- there  
7   were -- there were studies on nicotine, yes.

8           Q.    Okay.  Is there any particular reason  
9   why you would suggest some product improvement  
10  for something outside your division, such as what  
11  you're suggest -- strike that.

12                  On number three, you state that,  
13  "It's in some situations today, it's almost  
14  embarrassing to smoke."  Is that based upon your  
15  own personal experience or observations you made  
16  of others?

17           A.    I think that's a personal observation.

18           Q.    And then you state, "We should attempt  
19  to make smoking as elegant as possible."

20                  Is that based upon your personal  
21  experience?

1           A.    It's my personal idea, yes.

2           MR. ANGELOS:  Do you want to take five,  
3   guys?

4           THE VIDEOGRAPHER:  Off the record, end  
5   of tape three at 2:43 P.M.

6           (Recess taken -- 2:43 P.M.)

7           (After recess -- 2:54 P.M.)

8           THE VIDEOGRAPHER:  Starting of tape  
9   four, on the record at 2:54 P.M.

10          Q.    Mr. Bell, I want to ask you a couple of  
11   follow-up questions from a prior document.  It's  
12   11,704, the October 27, 1971, memo you wrote to  
13   Dr. Lewis.

14          MR. GUSTAFSON:  And it's 11,704.

15          MR. ANGELOS:  Yes.

16          Q.    On page two, and we had earlier talked  
17   about this, about moving into the second phase of  
18   this project to make a safer cigarette.  Could  
19   you define for me what you mean or meant by the  
20   use of the terms "safer cigarette" in the context  
21   of this memorandum?

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1           A.    What I meant is, if you have a  
2   cigarette and you paint the condensate from that  
3   cigarette on the backs of mice and get tumors,  
4   then if you did something to that cigarette and  
5   modified the tar in some way and painted it and  
6   got less tumors, then you would say we have a  
7   less -- a safer cigarette. You could use that  
8   term. And that's how that term is applied here.

9           Q.    Okay. And are you using that term as  
10   it applies simply to the mice painting  
11   experiments?

12          A.    Yes, 'cause that's our reference. I  
13   mean, that's the reference for the industry, I  
14   guess.

15          Q.    Okay. And we talked about this before,  
16   but you said mice don't consume or smoke  
17   cigarettes, but human beings do. Does that same  
18   discussion or the description of the safe  
19   cigarette apply to human beings or just to the  
20   tumors on the mice's backs?

21          MR. GUSTAFSON: I'll object to the

1 form.

2 A. I don't think I understood the question  
3 exactly. Would you mind repeating it?

4 Q. Sure. Is the characterization of safer  
5 cigarette, is that a safer cigarette for the mice  
6 or safer cigarette for human beings?

7 MR. GUSTAFSON: Objection. The  
8 question's argumentative.

9 A. Well, yeah. No, the standard is mice  
10 painting experiment. That's the only standard  
11 that we have and that we had then and probably  
12 still have. So it just refers to the generation  
13 of tumors on the backs of the mice.

14 Q. So, essentially -- I don't want to put  
15 any words in your mouth, but this project you did  
16 with formic acid and the other investigation is  
17 only for the purpose of making a safer cigarette  
18 for the purposes of the mice -- the tumors on the  
19 mice's back. Is that fair to say?

20 MR. GUSTAFSON: Objection,  
21 mischaracterizes his testimony.

1           A.    That's the only way that we have -- the  
2    painting of the mice is the only way we have to  
3    measure the activity of mice -- activity of  
4    condensate in cigarettes.  So, you know, that's  
5    our reference.  That's the bioassay that we use.  
6    So that's the only thing we can go by, that I  
7    know anything about.

8           Q.    So, in your description or definition  
9    of safer cigarette, does it have any application  
10   to human beings or consumers of Lorillard tobacco  
11   products?

12          A.    No, only in reference to the mice.

13          Q.    Do you believe a lower tar cigarette is  
14   a safer cigarette?

15                MR. GUSTAFSON:  Objection to form,  
16   inadequate context, vague and ambiguous.

17          A.    Not being an M.D. or someone that's  
18   highly knowledgeable in that area, it's hard for  
19   me to make a judgment on that.  But, you know, my  
20   personal opinion is probably not.

21          Q.    Do you believe a filtered cigarette is

1 a safer cigarette?

2 MR. GUSTAFSON: Objection to form,  
3 again inadequate context, vague and ambiguous.

4 A. Well, I think my answer would be the  
5 same. I don't -- I'm not a expert in that area.  
6 I'm not -- but my personal opinion it probably  
7 would not be safer.

8 MR. ANGELOS: Let me have this marked  
9 as Plaintiff's Exhibit 11,709.

10 (Deposition Exhibit Number 11,709 was  
11 marked for Identification.)

12 Q. Show this to you, sir. This is a  
13 letter dated October 25th, 1979, to Dr. Alexander  
14 Spears from Dr. Dietrich Hoffmann. And on the  
15 top of the page your name is written,  
16 handwritten. It says, "Jim Bell." Do you recall  
17 ever seeing this correspondence, sir, in dealing  
18 with, I guess, a discussion between Spears and  
19 Hoffmann?

20 A. I think I remember this.

21 Q. Okay. Were you the individual who was

1 requested to forward cigarettes to Dr. Hoffmann  
2 with these characteristics that are listed I  
3 guess in the second full paragraph? And he calls  
4 them 85 millimeter, made of identical blended  
5 tobacco with and without cellulose acetate filter  
6 tip. Is that you who would have forwarded those?

7 A. You know, I don't remember exactly. I  
8 would probably or would have arranged to have  
9 those cigarettes made and sent to him. I was  
10 probably responsible for sending those to  
11 Dr. Hoffmann.

12 Q. Dr. Hoffmann? Okay. What are the  
13 cyclic nitrosamines that are referenced in this  
14 letter?

15 MR. GUSTAFSON: Objection.

16 Q. Can you define those for us?

17 MR. GUSTAFSON: Objection, requires  
18 speculation.

19 A. Well, it is -- I would be  
20 speculating. Okay. Well, the last paragraph,  
21 he says, "alkaloid-derived nitrosamines," so I

1     guess they're what we call tobacco-specific  
2     nitrosamines.

3           Q.     And are these nitrosamines, to your  
4     knowledge, carcinogenic?

5           MR. GUSTAFSON:  Objection, vague and  
6     ambiguous.

7           A.     Again, you know, that's not my field,  
8     determining things like that.  I think the  
9     literature in some test animals perhaps some  
10    nitrosamines might be carcinogenic.  I don't  
11    know.

12          Q.     Can you isolate nitrosamines in the  
13    cigarette smoke condensate?

14          A.     Yes.

15          Q.     And are nitrosamines a component of all  
16    cigarette smoke condensate?

17          A.     I believe that's correct.

18          Q.     Let me show you 11,710.

19                   (Deposition Exhibit Number 11,710 was  
20    marked for Identification.)

21          Q.     This is a letter dated July 9th, 1980,

1 to Dr. Schultz, Fred Schultz, from Dietrich  
2 Hoffmann. And on the cc's at the bottom it  
3 indicates Dr. Spears and Dr. -- Pardon me -- J.  
4 Bell. Take a look at that and see if you recall  
5 seeing this letter before.

6 A. Okay.

7 Q. Okay. Do you recall seeing this letter  
8 before?

9 A. I think I have, yeah. I think I  
10 remember this.

11 Q. Okay. And do you recall that there was  
12 a draft of a proposal or paper attached with this  
13 letter? And I'm just citing the second sentence?

14 A. I don't -- I don't remember that.

15 Q. Did Dr. -- Pardon me, yes -- Dietrich  
16 Hoffmann states, "We intent to submit the paper  
17 for publication to a scientific journal." In  
18 fact, the first sentence says, "please find  
19 enclosed."

20 A. Hm-hmm.

21 Q. Did you see enclosed draft which was

1       entitled, quote, "On the Selective Reduction of  
2       Tobacco Specific N-Nitrosamines from Cigarette  
3       Smoke," close quote. Do you recall seeing that  
4       document?

5           A.    I think I read that, yes.

6           Q.    Did you make, you yourself make any  
7       comments and forward them to Dr. Hoffmann?

8           A.    I can't recall if I did or not.

9           Q.    It appears that Dr. Hoffmann has some  
10      professional respect for you, in the sense that  
11      this is addressed to Dr. Schultz and cc'd to  
12      Dr. Spears, and Hoffmann is a Ph.D. and you are  
13      not, and he asks for your comments.

14                What kind of business or work  
15      relationship did you have with Dr. Hoffmann  
16      throughout your, I guess, your interaction or  
17      career at Lorillard?

18                MR. GUSTAFSON: I'm going to move to  
19      strike counsel's preamble to the question.  
20      There's no foundation for that preamble.

21           A.    I think we respected each other as



1 scientists, and you know, I think we were  
2 friends.

3 Q. Okay. And, in fact, about this date,  
4 this is close to your 20-year anniversary with  
5 Lorillard; is that correct? In July 1980?

6 A. Yes, that's correct.

7 Q. And you had known Dr. Hoffmann for  
8 almost that full period of 20 years; is that  
9 right?

10 A. Almost.

11 Q. Okay. And in July of 1980, was Dr.  
12 Schultz your direct supervisor at this time?

13 A. Yes, he was.

14 Q. Okay. Do you know if this paper was  
15 ultimately submitted and published that is  
16 referenced in this letter?

17 A. I think that this -- I think this was  
18 premature. I think that paper was not published.

19 Q. Okay. When you say premature, what do  
20 you mean by that?

21 A. I think -- I think in later -- at later

1 times, I think I remember seeing a retraction of  
2 this selective filtration. That was something he  
3 thought had occurred but had not occurred. And,  
4 in fact, there was not selective filtration of  
5 nitrosamines.

6 Q. Is Dr. Hoffmann alive today?

7 A. In poor health, but still alive the  
8 last time I -- last I heard. He's --

9 Q. When's the last time you spoke to him?

10 A. I would say almost two years ago.

11 Q. Okay. And where was he located at that  
12 time?

13 A. Where did I see him?

14 Q. Yes, sir.

15 A. I just, I think just said hello and  
16 spoke to him briefly at a tobacco research  
17 chemists conference. And I'm not sure where  
18 that -- I'm not sure where that was. Maybe  
19 Richmond.

20 Q. Okay. Let me show you what we're going  
21 to mark as 11,711.

1                   (Deposition Exhibit Number 11,711 was  
2   marked for Identification.).

3           Q.    I actually gave these to you out of  
4   order, sir.  This is dated March 31st, 1980,  
5   actually before the last letter you just saw.  
6   But -- Pardon me.  This is from Dr. Schultz, Fred  
7   Schultz, and also has Mr. J.H. Bell at the  
8   signature line to Dietrich Hoffmann.

9                   Did you write this letter or did  
10   Dr. Schultz write this letter?  Or if that's  
11   not the case, did you write it together?

12           A.    I would assume that Dr. Schultz wrote  
13   it.

14           Q.    I know your signature's not here, but  
15   did you review it or look at it before it was  
16   sent off?

17           A.    I don't remember.

18           Q.    Okay.  And there's a Dr. V. -- Dr. Vela  
19   Norman.  Who is Dr. Norman?  What is his position  
20   at Lorillard?

21           A.    He's now vice-president of research

1       presently.

2               Q.    In 1980, do you know what his title  
3       was?

4               A.    In 1980, I think he was probably a  
5       scientist.

6               Q.    Scientist?

7               A.    Hm-hmm, which is a research, research  
8       chemist or -- well, his title would be scientist,  
9       I believe.

10              Q.    And the last sentence of the letter,  
11       it's -- Dr. Schultz writes that "Jimmy Bell will  
12       handle the details from our end, as before." Do  
13       you know what details Dr. Schultz is referring to  
14       in the context of this document?

15              A.    Well, I think he's talking about  
16       securing these samples and mailing them to  
17       Dr. Hoffmann.

18              Q.    Okay. And did you secure those  
19       samples?

20              A.    I don't remember doing it, and I  
21       would -- I would have just passed this on to

1 someone else to be done, 'cause I couldn't do  
2 this, but I could assume that it was done and  
3 that they were mailed and -- if we did send them.

4 Q. What about this project that you  
5 couldn't handle? Why is it that you couldn't  
6 handle or get these --

7 A. 'Cause I don't make filters, and this  
8 is a filter addition, the triacetin plasticizer  
9 goes on the filter, and we don't do that in the  
10 lab. That's done in a pilot plant operation with  
11 pilot plant technicians and those people that do  
12 that type of thing.

13 Q. Is that still done in-house at  
14 Lorillard, though?

15 A. Yeah, in our pilot plant.

16 Q. Pilot, did you say?

17 A. Pilot, and it would have been done by  
18 product development people and not research  
19 people.

20 Q. Okay. And when they talk about the  
21 removal of NNN, what does that stand for?

1           A.    That's nitroso nornicotine, nitroso  
2   nornicotine.

3           Q.    Is that a nicotine analog?

4           MR. GUSTAFSON:  Objection to form. It's  
5   vague and ambiguous.

6           A.    I don't think you'd call it an analog.

7           Q.    What would you call it as relates to  
8   the actual nicotine component in the cigarette?

9           MR. GUSTAFSON:  Objection to the form  
10   of the question.

11          A.    It's a nitroso compound, and it's  
12   formed from the reaction of nicotine in nitrate  
13   or nitrite.  But it's just a product.  It's  
14   not -- it's just a new compound.  It's hard to  
15   say how it relates to nicotine.

16          Q.    Okay.  Would you consider that a tar,  
17   the nitroso nornicotine?

18          A.    Well, tar is, you know, is a collective  
19   term of everything in there, and it's part of it,  
20   so it's part of the tar.

21          Q.    Okay.  It's also in the F.T.C. ratings,

1       they list nicotine as well. Would nitroso  
2       nornicotine be a component or a constituent of  
3       that nicotine measurement?

4           A.    No, no.

5           Q.    If you know, is nitroso nornicotine is  
6       a carcinogen?

7                   MR. GUSTAFSON: Objection to the form  
8       vague and ambiguous, without context.

9           A.    Yeah, I don't know if it is or not.

10          Q.    Are there components in the,  
11       quote/unquote, tar that are not carcinogens?

12                   MR. GUSTAFSON: Same objection.

13          A.    You know, when you ask, is it a  
14       carcinogen, I mean, a lot of things taken in  
15       large amounts might be. So, you know, you can't  
16       really answer that question very clearly. I  
17       don't know how to answer it.

18          Q.    I'll show you what I'm going to mark as  
19       Plaintiff's Exhibit 11,712. See if you recognize  
20       that, sir.

21                   (Deposition Exhibit Number 11,712 was

1 marked for Identification.)

2 Q. I'm going to attempt to represent to  
3 you that this was the article that was attached  
4 to that letter, which it may have been referenced  
5 in the prior exhibit.

6 Let me ask you, sir. This is  
7 entitled, "Chemical Studies on Tobacco Smoke on  
8 the Selective Filtration of Tobacco Specific  
9 N-Nitrosamines," and it's called, "Progress  
10 Report," dated 3/18, 1980, by D. Hoffmann and  
11 J.D. Adams.

12 Do you recall seeing this document  
13 before, sir?

14 A. I think I've read this document.

15 Q. Okay. Is this the draft document that  
16 we spoke about before that Dr. Hoffmann forwarded  
17 to Lorillard in 1980?

18 MR. GUSTAFSON: It was 7010 was the  
19 prior copy?

20 THE WITNESS: 7011.

21 MR. GUSTAFSON: Yeah. Here's my copy.

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1           A.    It appears to be.

2           Q.    Okay.  And the upper left-hand corner,  
3   it appears that Fred, or Fred Schultz, has  
4   written, "Let's discuss these results with Jim  
5   Bell," and I can't read the next two words, looks  
6   like "Wednesday in the morning, a.m."  And if  
7   that's incorrect, we'll -- do you recall  
8   discussing this paper with Dr. Schultz?

9           A.    Actually, I do not recall it.

10          Q.    Okay.

11               MR. GUSTAFSON:  I just want to note for  
12   the record that the title for this document --

13               MR. ANGELOS:  Slightly different?

14               MR. GUSTAFSON:  -- 11,712, is different  
15   from the title of the document referenced in  
16   Exhibit 11,710.

17               MR. ANGELOS:  I think really "reduction  
18   in filtration" are the main changes.

19               MR. GUSTAFSON:  And, in other words,  
20   there's nothing on the face of the document that  
21   shows that this, in fact, was the document

1 attached to the letter dated July 9, 1980.

2 I'm not necessarily quibbling with your  
3 statement earlier, John, that it is. I'm just  
4 saying I don't see anything on the face of the  
5 document that would prove that.

6 Q. Just -- I'm sorry. Just so I'm clear,  
7 do you believe you've seen this document before  
8 and read it over, sir, the progress report from  
9 Doctors Hoffmann and Adams?

10 A. Yeah, I would think that I've read  
11 this, but I don't recall it, but I probably got a  
12 copy of it.

13 Q. Okay. Let's go ahead and put that  
14 aside then.

15 (Deposition Exhibit Number 11,713 was  
16 marked for Identification.)

17 Q. Mr. Bell, let me show you what we're  
18 going to mark as 11,713. And this is a document  
19 dated November 18th, 1980. It's a Lorillard  
20 memorandum to Dr. Schultz from V. Norman, and the  
21 subject is entitled, "Visit to American Health

1 Foundation."

2 Do you remember travelling to the  
3 American Health Foundation back on November 13th,  
4 1980, with Vela Norman?

5 A. I don't remember it.

6 Q. No? Where is the American Health  
7 Foundation located?

8 A. It's in Upper -- let's see. It's up in  
9 Westchester County, up near Valhalla. It's near  
10 Valhalla, up near Tareytown, that area.

11 Q. What state?

12 A. New York State.

13 Q. But you have no recollection of  
14 travelling there to meet with Doctors Hoffmann  
15 and Adams and talking about, at least what the  
16 memo says, "Deficiencies of the F.T.C. Smoking  
17 Regime"?

18 MR. GUSTAFSON: Objection, asked and  
19 answered.

20 A. I don't -- You know, I don't remember  
21 being there at this particular time.

1           Q.    Okay.  Let me ask you if you can at  
2   least define something in here that might be in  
3   your experience.  A fair way down in the first  
4   paragraph, front page, Norman writes that, "Dr.  
5   Hoffmann opined that the testing program will be  
6   taken away from F.T.C. and given to O.R.N.L.  Do  
7   you have any knowledge of what O.R.N.L. is?

8           A.    Yes.

9           Q.    What does that stand for?  What is your  
10   understanding of that abbreviation?

11          A.    I think that's the abbreviation for Oak  
12   Ridge National Laboratory.

13          Q.    Okay.  And where is that laboratory  
14   located, if you know?

15          A.    In -- outside of Knoxville, Tennessee,  
16   in Oak Ridge, Tennessee.

17          Q.    Is that a privately-owned or federally-  
18   or publicly-owned lab?

19          A.    Federally.  It's a federally-owned  
20   operation that's managed by somebody for the  
21   government.

1 Q. Okay. Do you know if Dr. Hoffmann had  
2 any specific relationship with the F.T.C. during  
3 the period that you knew him?

4 MR. GUSTAFSON: Object to the form.

5 A. A lot of people knew Dr. Hoffmann, and  
6 he knew a lot of people, but what -- who knew him  
7 or what the relationship was, I don't really  
8 know.

9 Q. Okay. And in the, gosh, close to 40  
10 years or 35 years or so that you knew and spoke  
11 with Dr. Hoffmann, do you have any knowledge of  
12 what -- how he received his funding for his  
13 American Health Foundation?

14 A. Well, it was through grants. That's  
15 all I know.

16 Q. Do you have anything knowledge if  
17 Lorillard ever provided any grants to  
18 Dr. Hoffmann's American Health Foundation?

19 A. I don't know for a fact that we did.

20 Q. I'm going to show you a document we're  
21 going to have marked as 11,714.

1 MR. GUSTAFSON: Thank you.

2 (Deposition Exhibit Number 11,714 was  
3 marked for Identification.)

4 Q. Take a look at this.

5 A. Okay.

6 Q. This is a document dated August 2nd,  
7 1982, Lorillard memorandum to M.A. Sudholt, one  
8 word, S-U-D-H-O-L-T, from Florian, F-L-O-R-I-A-N,  
9 Perini, P-E-R-I-N-I.

10 And in the upper left-hand corner,  
11 someone has written "J. Bell" up there. And the  
12 subject matter states, it's called, "Idea  
13 Session, July 27th, 1982, of Tobacco Science  
14 Group."

15 Mr. Bell, were you a member of the  
16 tobacco science group in 1982?

17 A. Yes, I was.

18 Q. And who was Florian Perini?

19 A. He's Dr. Perini, and he was a chemist  
20 in the tobacco science group.

21 Q. And who is M.A. Sudholt?

1           A.    She was a -- she is a chemist, and she  
2    was in the analytical group.

3           Q.    And what was the purpose or function of  
4    this tobacco science group at Lorillard?

5           A.    Well, I was head of that group, and I  
6    don't know if it was ever written or ever stated  
7    what the specific function was. We were just --  
8    we were just -- we conducted, you know, certain  
9    research projects and pertaining to tobacco and  
10   the analysis of tobacco smoke.

11          Q.    Were all the members of the tobacco  
12   science group, which you were the head of, were  
13   they all from the research department?

14          A.    Yes, this was a research department  
15   group.

16          Q.    Okay. What was Dr. Perini's title in  
17   the research group here in '82?

18          A.    He was a senior research chemist.

19          Q.    How about Sudholt?

20          A.    At that point she was either research  
21   chemist or senior research chemist.

1 Q. And what was your title at this time?

2 A. I was a scientist.

3 Q. Scientist? On the next page, under  
4 number 12, there's a paragraph or an item on  
5 cigarette holder or an elegant cigarette case.  
6 And at the end of that, the words written there,  
7 there's the word "Bell" written in parentheses.  
8 Was this your idea here as it's written on this  
9 page?

10 A. Yes.

11 Q. And on the next page, under number  
12 18, "video game imagery," the last portion of  
13 that is Perini and Bell. Do you see that?

14 A. Hm-hmm.

15 Q. Was this -- this idea or the contents  
16 of this paragraph suggested by both you and Dr.  
17 Perini?

18 A. Yeah, let me read this, please.

19 Q. Sure.

20 A. I don't remember that, but, you know, I  
21 guess, this is something that Florian wrote, and



1 I guess he wanted to give me part credit for  
2 that. But I don't remember it.

3 Q. Did you have any children in high  
4 school, you yourself around 1982?

5 A. Yes, I did.

6 Q. You have three children?

7 A. Three children.

8 Q. Was anyone of the three in junior high  
9 school during that time period, '82?

10 A. My youngest son probably was just  
11 starting high school.

12 Q. Did your youngest son play video games,  
13 such as Pac Man, Spaces Invaders, Tron, that's  
14 written here?

15 A. Yeah, they did some of that.

16 Q. Okay. And this idea of video game  
17 imagery incorporated in the pack design, then in  
18 parentheses, "youth appeal," was this type of  
19 suggestion an attempt to get, I guess, high  
20 school individuals to be attracted to Lorillard  
21 products?

1 MR. GUSTAFSON: Objection, requires  
2 speculation about a document he didn't write.

3 A. Yeah, I'm not so sure. I don't  
4 remember what that was all about and, you know,  
5 where it might go. I don't remember it. I don't  
6 remember discussing this or having any, really,  
7 input into this.

8 Q. Do you know why your name is listed on  
9 this, along with Dr. Perini, this idea or subject  
10 matter for number 18?

11 A. I don't -- you know, my group met,  
12 apparently, and we put together ideas. But, you  
13 know, I didn't write this up, and I don't  
14 remember, you know, if I had any strong input  
15 into that or not.

16 Q. Let me ask you. At least the way it's  
17 written here, it states, "The widespread video  
18 game craze has certain fundamental features,  
19 which we could be the first to exploit. Names  
20 such as Pac Man, Space Invaders, Tron and their  
21 imagery can imaginatively show up on cigarette

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1     packs with repeat motives," and in parentheses --  
2     and I played these games when I was a kid. It  
3     was like Pac Man thing that crunches the dots,  
4     and there's a little, kind of ghost-like imagery  
5     that would chase you around, and that's kind of  
6     drawn right on here. And in parentheses, it  
7     says, "And patterns and their bright imagery  
8     could have lasting appeal."

9                     Do you agree that that -- about this  
10    discussion put on here, in which Dr. Perini and  
11    your name is written after? I mean, is this  
12    something you talked about and thought was a good  
13    idea?

14                   A.    It sounds like a very bad idea from  
15    some research chemists.

16                   Q.    And would that be a bad idea from a  
17    research chemist named Jimmy Bell?

18                   A.    Yes, it could be.

19                   Q.    Okay. And why would that be a bad  
20    idea, sir?

21                   A.    Because we certainly didn't want to

1 market anything to- towards youth, and we're not  
2 marketing people. We were research chemists in a  
3 lab, so we probably didn't know what we were  
4 talking about.

5 Q. Let me show you a document I'm going to  
6 mark as 11,715.

7 (Deposition Exhibit Number 11,715 was  
8 marked for Identification.)

9 Q. And the first sheet is -- a appears to  
10 be distribution list of employees or individuals,  
11 and the third from the left says "J. Bell," up in  
12 the left-hand corner. I'm going to be on the  
13 front sheet, sir, just so you --

14 A. Oh, yeah, I saw that.

15 Q. Okay. And as you were on the next  
16 page, it's dated December 10th, 1984, it's a  
17 Lorillard memorandum. And it says to the list,  
18 which is the list we talked about on the front  
19 page, from someone named T.D. Bradley. And the  
20 subject is, "Changes in Deletion of Documents  
21 Contained on Your Diskettes." Who is T.D.

1 Bradley?

2 A. I have no idea.

3 Q. The two people at the bottom of the  
4 list, an L.F. Parrish and J.E. Wilson, can you  
5 identify them for us, the bottom left-hand  
6 corner?

7 A. Okay. There's a Linda Parrish, who's a  
8 secretary, and J.E. Wilson, I have no idea,  
9 either.

10 Q. Okay. Do you recall receiving this  
11 memorandum back in December of 1984?

12 A. No, I don't remember this.

13 Q. Okay. Did you keep -- I'm sorry. Is  
14 there someone you recognize?

15 A. No, I just know what it's about now.

16 Q. Can you tell us what it's about?

17 A. Well, Linda Parrish was a secretary in  
18 our typing pool. She was -- she was one of two  
19 people in our typing pool, and she was the person  
20 who typed what I submitted. That was before we  
21 had PC's and computers.

1                   So everything that we wanted to get  
2   typed went to a typing pool, and they made copies  
3   of everything on these diskettes. But, you know,  
4   and I never saw it, and I wasn't involved with  
5   that, but -- so it was really something for her,  
6   not necessarily for me.

7           Q.    Okay. Is the context of this,  
8   discussing kind of floppy diskettes -- we  
9   don't use them anymore, but they're more of a  
10   three-by-three square floppy diskettes? Is that  
11   your understanding that's what she's referring  
12   to?

13          A.    Yeah, I think so. That's what it is.

14          Q.    All right. Sorry. Did I ask you who  
15   T.D. Bradley was?

16          A.    Yes, and I don't know.

17          Q.    Okay. Did you yourself ever retain any  
18   diskettes or copies of the papers or research  
19   that you would conduct in Lorillard over the  
20   several decades?

21          A.    No. I would get, you know, the typed

1       copies, and the library would get a copy. And I  
2       don't know what happened to the diskettes.

3           Q.    Did you ever keep your personal copies  
4       of the experiments you did, projects you worked  
5       on? Did you ever retain any of those, kind of a  
6       history of what you did at Lorillard?

7           MR. GUSTAFSON:  Objection to the form,  
8       vague and ambiguous.

9           A.    To the best of my recollection we had a  
10      system where everything that was typed up, a copy  
11      went to the library for keeping and, of course,  
12      our own files. And, of course, those files are  
13      kept.

14          Q.    Where were your own files kept?

15          A.    They were kept in my office until I  
16      needed more room. They were boxed up and shipped  
17      to a storage area.

18          Q.    Was that -- did that stay in  
19      Greensboro, the storage area?

20          A.    Yes, I think.

21          Q.    Do you know where they went to?

1           A.    I have never seen them, but I think  
2   they're in the basement of the manufacturing  
3   building.

4           Q.    If you wanted to look at an old  
5   document from 1970 or let's say '73 about the  
6   formic acid project, could you go locate that and  
7   find that?

8           A.    I couldn't. I could direct someone  
9   else to find that document, and they -- I think  
10   they could find it.

11          Q.    Did you ever take any of your reports  
12   or documents home?

13          A.    No.

14          Q.    Was there a particular reason why you  
15   didn't keep your own library at home?

16          A.    Yeah. I didn't want to keep them at  
17   home. I mean, I had no reason to keep them at  
18   home.

19                THE WITNESS: John, could we in a few  
20   minutes can we take a break? I have a sinking  
21   feeling. I just want to get some coffee maybe.



1 MR. ANGELOS: Sure. Let's take a  
2 break.

3 THE VIDEOGRAPHER: Off the record at  
4 3:40 P.M.

5 (Recess taken -- 3:40 P.M.)

6 (After recess -- 3:48 P.M.)

7 THE VIDEOGRAPHER: Back on the record  
8 at 3:48 P.M.

9 Q. Mr. Bell, I want to ask you one last  
10 question about what we said, Exhibit 11,715.  
11 Were you ever asked to turn over any of your  
12 experiments or reports or any of your notes to  
13 any of the lawyers for Lorillard?

14 MR. GUSTAFSON: Objection. The  
15 question's vague and ambiguous, regarding what  
16 context? Go ahead.

17 A. To the lawyers of Lorillard?

18 Q. Yes, sir.

19 A. Now, My records have been copied  
20 several times. I don't think that they were  
21 Lorillard lawyers that did that, though. I think

1       they were outside lawyers.

2           Q.    Okay.  When do you recall that some  
3   documents of yours were copied by lawyers,  
4   whether they were in-house or outside counsel?

5           A.    When did I remember?

6           Q.    Yeah.  Yes, sir.

7           A.    Man, I have lot of all track of time.  
8   But it seems like the first time, it was in the  
9   late eighties or middle eighties or some time  
10   like that.  And then I think in two previous  
11   times, I think they've come, so I think a total  
12   of three, three times.

13          Q.    And is it your testimony the first time  
14   was in --

15          A.    It seems like to me was maybe '87,  
16   something around '87, give or take a couple  
17   years.

18          Q.    And can you describe the -- how the  
19   lawyers came to you or what was discussed in the  
20   sense of -- strike all that.

21                   Under what circumstances were you

1     approached and asked to have your or requested to  
2     have certain of your records copied or things of  
3     that nature?

4             MR. GUSTAFSON: Okay. Hold on before  
5     you respond. You can respond to his question so  
6     long you do not disclose the substance of any  
7     communications between counsel and yourself. You  
8     can tell him the process. I don't want you  
9     disclosing the substance of communications with  
10    lawyers, because, I believe, those are protected  
11    by the attorney/client privilege and the work  
12    product doctrine.

13            A. My recollection is that I got out of  
14    the office, and they came in and went through  
15    everything in the office. There was no planning  
16    on -- I mean, they had a plan, how they were  
17    going to do it. But I wasn't involved in that.  
18    They just came through and went through  
19    everything.

20            Q. Okay. And when you got back in your  
21    office, were all your, I guess, records and files

1 back in place?

2 A. Yeah, in fairly nice order, and they  
3 had returned what they had copied into colored  
4 folders, so that they would -- you know, they  
5 were distinguished there. And they had put  
6 numbers on some of the drawers, I guess for, you  
7 know, identification of what had been copied  
8 where or something of that nature.

9 But they had put numbers on drawers and  
10 organized what they had copied and put that  
11 folder back into the folders from which all the  
12 files were in.

13 Q. Okay. Now, did this activity or action  
14 take place in two other occasions?

15 A. I think in each case there were a  
16 different procedure but, you know, they had the  
17 previous procedure. You know, I think they knew  
18 what the previous procedure was, so that they  
19 could probably see what was done previously. And  
20 then, you know, they would be looking for new  
21 material or whatever.

1           I don't know what all they did or what  
2   all they were looking for. They copied  
3   everything pretty well.

4           Q.   Okay. And don't you have to disclose  
5   what was said, but were there discussions from  
6   the lawyers with you personally concerning the  
7   copying of documents?

8           A.   Not that I recall.

9           Q.   Okay.

10          A.   I was out of the way, completely out of  
11   the way.

12          Q.   Were you out of the way on all three,  
13   separate occasions --

14          A.   Right.

15          Q.   -- when they came? And if you can, you  
16   described the first occasion in the mid to late  
17   eighties. Can you give a time frame for the  
18   latter two occasions?

19          A.   I would say one was about -- one was  
20   about four years ago, five years ago, say '92.  
21   And there may not have been another one. There

1     may have been just two occasions. I don't  
2     remember. But we had a lot of discussion and  
3     everything about records, due to what they call  
4     the Iowa case.

5           Q.    I'm sorry?

6           A.    Iowa.

7           Q.    Iowa.

8           A.    The State of Iowa case, which was  
9     something special, and -- and that was about two  
10    years ago. There was no -- I don't think they  
11    copied files for that, but it was a new thing  
12    about you can't throw anything away, anything.  
13    Don't throw anything away.

14                I mean, that means -- I mean, they were  
15    very emphatic about, you know, if you have a  
16    grocery list and you write it down, just, put it  
17    in a box for Iowa. I don't know what that was  
18    all about, but I never understood any of this.

19           Q.    Did either Dr. Spears or Dr. Schultz  
20    ever give you any instructions on retaining or  
21    destroying any documents?

1           A.    I don't believe I got any directive  
2    from those two people, no.

3           Q.    Did you ever receive any instructions  
4    from anybody as far as destroying any documents?

5           A.    There was a lot of discussion, a lot of  
6    direction about that from our research  
7    administrator.

8           Q.    Okay.

9           A.    And probably things directly by memo  
10   from legal about, you know, do not destroy  
11   anything and be sure to keep all your electronics  
12   and electronic records and the whole --  
13   everything.

14          Q.    What time period do you recall, if you  
15   do, in receiving some type of direction or orders  
16   as pertains to the saving or destruction of  
17   documents?

18          A.    Well, it seems like that we got this on  
19   a fairly regular basis from the time that we were  
20   first instructed to, you know, make sure that  
21   everything was to be kept and everything; and

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1     probably before that, you know, way back before  
2     all the lawsuits and all the court dealings and  
3     so forth, about don't destroy records.

4             So, you know, our -- not a written  
5     policy, but we were all pretty well instructed  
6     about not destroying records.

7             Q.    And from whom did those instructions  
8     come from?

9             A.    I think a lot of it came from legal,  
10    and a lot of it came through our research  
11    administrator.

12            Q.    Who is the research administrator, if  
13    you recall, would have given those type of  
14    directions to you?

15            A.    That would have been Mrs. Hallie  
16    Jessup.

17            Q.    And do you recall anyone from legal,  
18    any names of any lawyers that may have given you  
19    any directions?

20            A.    You know, I really don't remember, but  
21    maybe even from Arthur Stevens.



1 MR. ANGELOS: Okay. Let's mark this  
2 document 11,716.

3 (Deposition Exhibit Number 11,716 was  
4 marked for Identification.)

5 Q. Have a look at that.

6 A. Okay.

7 Q. Sir, this is a document dated March 6,  
8 1989, on Kimberly-Clark letterhead -- that's two  
9 words, separated by a hyphen -- from Mr. Sean  
10 Kelly, and it's addressed to Terry Jessup and  
11 cc'd to several names, but yours is listed  
12 first, "J. Bell." Who is Terry Jessup?

13 A. He's a, I think, manager in the product  
14 development group.

15 Q. And did you travel with him down to  
16 Roswell, Georgia, at some point in 1989?

17 A. Yes, I did.

18 Q. Okay. And were you representing or a  
19 representative of the research and development  
20 department when you made that trip?

21 A. Yes, I was.

1 Q. What was the purpose of this trip?

2 A. We -- we discussed with the group here  
3 listed from Kimberly-Clark about looking at new  
4 smoking materials, and how they might could work  
5 with us in doing that, since they were the  
6 supplier of our R.L. Material, our reconstituted  
7 sheet, reconstituted tobacco.

8 They have the ability to make smoking  
9 sheets out of anything, I guess. But they make  
10 it out of our by-products. So we were -- you  
11 know, we were exploring, you know, what we could  
12 do in using that product and research, you know,  
13 using that in research cigarettes to again  
14 explore smoke composition.

15 Q. Does Lorillard send out their, I guess,  
16 tobacco by-products to Kimberly-Clark in Roswell,  
17 Georgia, and they make the reconstituted leaf  
18 sheets?

19 A. Something like that. They don't make  
20 it. They make it in New Jersey, Spotswood, New  
21 Jersey, and most of those materials can come from

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1     our tobacco processing plant in Danville,  
2     Virginia.

3           Q.     It's your understanding that they're  
4     shipped up to New Jersey, and that's where they  
5     process it into the sheets?

6           A.     Right.

7           Q.     And then return it back to Lorillard?

8           A.     That's correct.

9           Q.     Okay. Do you know if there's any  
10    reason why that particular manufacturing process  
11    is outsourced from Lorillard?

12          A.     No, I really don't. It's a -- you  
13    know, management made a decision to go with their  
14    product at that time, and I -- you know, I don't  
15    know what -- it may have been economic or  
16    something. I don't know what reasons they would  
17    have.

18          Q.     Okay. Let me show what you we're going  
19    to mark as Plaintiff's Exhibit 11,717.

20                   (Deposition Exhibit Number 11,717 was  
21    marked for Identification.)

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1 A. Okay.

2 Q. This is a memorandum, dated December  
3 8th, 1989, from C.W. Lassiter to J.H. Bell, and  
4 the subject is called B, as in boy, 451 project.  
5 Do you recall receiving this memorandum, sir?

6 A. Yes, I do.

7 Q. And who is C.W. Lassiter?

8 A. He's a chemist working in the product  
9 development section and sort of assigned to this  
10 project.

11 Q. Okay. Were -- was Lorillard able to, I  
12 guess, create their own procedure for making  
13 reconstituted leaf tobacco inside the laboratory?

14 A. This Williams sheet mold allowed us to  
15 make a sheet about the size of that page with  
16 about a gallon of water. It's a -- it was a  
17 pretty slow process to make something, but we  
18 could make something. We could take granular  
19 material and make a sheet with this mold.

20 Q. Okay. And what was the purpose of the  
21 B-451 project?

1           A.    B-451 project is a cigarette  
2   modification project. The objective of that  
3   project was to see if we could change the  
4   composition of smoke of a -- you know, change the  
5   composition -- make a smoking article that would  
6   have a different smoking -- a different  
7   composition of tar from a conventional cigarette.

8                   And if -- if it were different, would  
9   that product have a different response if you  
10   painted them on the back of mice or tested it by  
11   some other bioassay.

12           Q.    It states in the really the fifth  
13   paragraph, second -- second sentence, Mr.  
14   Lassiter writes, "Our goal is to manufacture  
15   sheet with much lower mutagenic activity than our  
16   present K.C.R.L." Is that some substance of just  
17   what you described there?

18           A.    K.C.R.L.

19           Q.    "The goal of the manufacturing is to  
20   manufacture a sheet with the lower mutagenic  
21   activity."

1 MR. GUSTAFSON: I object to the form.

2 A. Yes.

3 Q. And what is K.C.R.L.?

4 A. That's Kimberly-Clark Reconstituted  
5 Leaf.

6 Q. Kimberly-Clark --

7 A. Kimberly-Clark Reconstituted Leaf.

8 Q. Okay. And the author goes on to  
9 state that, "The product is acceptable from an  
10 organoleptic standpoint." Can you define that  
11 or what does that mean?

12 A. Taste.

13 Q. Taste?

14 A. It means taste.

15 Q. It states that, "Kimberly-Clark  
16 has also provided us was R.L." Reconstituted  
17 leaf, "which does not contain the,"  
18 quote/unquote, "black water." What is  
19 black water?

20 A. In the process -- I've never seen their  
21 process, but I understand that it's a papermaking

1 type process. And in that, it's -- the material  
2 is suspended in water and sprayed on a sheet, and  
3 the water is sucked off of that sheet.

4 In the case of reconstituted tobacco,  
5 that water is recirculated and used over and  
6 over, so that -- you know, otherwise you'd be  
7 wasting a lot of water. So that water -- and it  
8 becomes black, because of the extracts in that  
9 water. And it's just called black water.

10 Q. Did you participate in the experiments  
11 that allowed removal of remaining nitrates that  
12 took place in your -- I guess, your testing  
13 process here?

14 A. Did I participate in that?

15 Q. Yes, sir.

16 A. I have participated in procedures to  
17 remove nitrates, pretty simple. I don't know  
18 what context is used here. Can you point that  
19 out to me?

20 Q. Oh, it would be the last paragraph.  
21 The second sentence states, "We have performed

1 experiments with this material by first removing  
2 most of the remaining nitrates by water  
3 extraction."

4 A. Oh, right, right. We took an R.L.  
5 Tobacco that they supplied us, and we -- you  
6 know, it's just practically like a paper. And we  
7 extracted that with water, and it removes all the  
8 nicotine and all the nitrate, if you extract it  
9 enough, and that's what we did.

10 Q. Okay. Whatever happened with this  
11 B-451 project? Was it ultimately successful in  
12 achieving your goal, as you stated and as you  
13 testified to?

14 MR. GUSTAFSON: Objection,  
15 mischaracterizes his testimony. It's vague and  
16 ambiguous, as well.

17 A. You know, since my retirement, and I  
18 was heading up the project, but I would imagine  
19 someone's picked up those activities and that  
20 project is going forward.

21 Q. Okay. And you retired almost -- well,



1 eight-and-a-half years later after this; is that  
2 right?

3 A. Hm-hmm.

4 Q. So the project was ongoing from the  
5 period of December 1992 to July 1st, 1998, to the  
6 best of your knowledge?

7 A. It's been going on, yes.

8 Q. Okay. And in that time period, or at  
9 least when you left, had -- is it fair to say  
10 that this ultimate goal has not been achieved?

11 MR. GUSTAFSON: Objection, it's vague  
12 and ambiguous.

13 A. No, it's -- we have learned a great  
14 deal, but you know, this is a long-range project.  
15 And, you know, I think we know more than we knew  
16 before, but we're a long way from achieving our  
17 goal.

18 Q. Okay. All right. Let me show you  
19 we're going to mark this as 11,718.

20 (Deposition Exhibit Number 11,718 was  
21 marked for Identification.).

1           Q.    This document's dated January 2nd,  
2           1990. And it's to J.D. Heck from M.M. Dozier,  
3           and the subject is Project B451 and what you  
4           called and also stated here, "The Cigarette  
5           Modification Project." And on the copy receipt  
6           of this, you're listed J.H. Bell, you're listed  
7           on the second page of the document. Who is J.D.  
8           Heck?

9           A.    He's -- it's Dr. Heck, a toxicologist,  
10          and works in our light -- well, I'm not sure if  
11          he's -- he's a toxicologist, works for Lorillard.

12          Q.    Okay. And the memo references a -- an  
13          in-house test for mutagenicity in the Salmonella/  
14          Mammalian-Microsome reverse mutation, in  
15          parentheses, Ames, A-M-E-S, assay in 1989. Can  
16          you tell me what that is?

17          A.    I know what they're doing and I know  
18          what it is, but it's hard for someone that's not  
19          a toxicologist to discuss this. But it -- that's  
20          the salmonella bacteria, and we were using the  
21          TA98 strand of that, that is a -- that's used

1 widely to measure compounds that will mutate that  
2 strain of bacteria.

3 Certain compounds will make it mutate,  
4 and you'll get new colonies of new bacteria. So  
5 it's a -- it's a fast way of looking at compounds  
6 or trying to see if compounds cause mutation.

7 Q. Okay. And how is these mutations,  
8 these changes, relate to the reconstituted leaf?  
9 What's the purpose of doing this test and  
10 identifying certain mutants, as it relates to  
11 reconstituted leaf process?

12 A. Well, it relates to anything -- I mean,  
13 to cigarette tar of any nature. It -- you know,  
14 you can have some mutations. We were using it,  
15 as I pointed out awhile ago, for the  
16 reconstituted leaf. We were seeing if we could  
17 modify that reconstituted leaf in order to reduce  
18 the mutations that it would cause.

19 Q. Okay.

20 A. It doesn't -- it's just -- again, it's  
21 just a way of testing things. There's a

1 biological response, and hopefully if you've got  
2 something that had less biological response, you  
3 might say, well, that's better.

4 But, you know, how it relates to  
5 anything else, you know, who knows?

6 Q. Okay. I'm still a little thick on  
7 this. What mutations are we seeing in the smoke  
8 condensate that could lead to the tumors on the  
9 mice's back?

10 A. Would you say -- ask that again?

11 Q. In the context of evaluating the smoke  
12 condensate on the backs of mice and seeing tumors  
13 or cancers being grown, where's the mutation  
14 part? What is being mutated? Are we seeing  
15 normal cells go on the backs of the mice and the  
16 mutations occur and then the cancers grow? Is  
17 that what's occurring?

18 MR. GUSTAFSON: I'll object to the  
19 form.

20 A. I don't believe I can answer that. I  
21 don't believe I know how that -- that's you're

1 really getting into what causes tumors and  
2 cancer. And, you know, these people know  
3 something about that, but I really don't know  
4 enough to really discuss it.

5 Q. Okay. I'm just trying to get the  
6 relationship of the mutation, what genes are  
7 mutating and why is that a problem, or what is  
8 that causing as it relates to determining the  
9 effect on the tumors or the mice painting  
10 experiments.

11 MR. GUSTAFSON: Objection to form,  
12 vague and ambiguous and unintelligible.

13 A. I don't think anyone knows how -- you  
14 know, I don't think anyone knows that  
15 relationship. It's just, the Ames test is very  
16 quick, and we could survey a lot of different  
17 things that we're doing, a lot of -- you know, a  
18 lot of things real fast; whereas, if we went to a  
19 mouse painting experiment, we'd be talking about  
20 six months, eight months or something.

21 And this way we could do something in a

1 week. And so that's why we're using the Ames  
2 test. But it doesn't relate to anything, but  
3 it's just a -- it's just a test, biological  
4 response test.

5 Q. Okay. And these mutations that  
6 occurred here, or at least what are being test  
7 for, are site specific on the salmonella  
8 bacteria, which are causing them to mutate or  
9 change into a different format. Is that  
10 accurate?

11 A. I -- I -- I don't know. I really don't  
12 think.

13 Q. Okay.

14 A. There are a lot of different strains of  
15 bacteria, and TA98 is one of those strains. And,  
16 you know, why they choose that versus something  
17 else, because it's available, I think. But I  
18 really can't answer that. I just don't know.

19 (Deposition Exhibit Number 11,719 was  
20 marked for Identification.)

21 Q. Show you what we've got marked as

1 Plaintiff's Exhibit 11,719. Okay. And for the  
2 record, this document is dated February 12th,  
3 1990. It's submitted by A. Prakash,  
4 P-R-A-K-A-S-H, and it's entitled, "Analytical  
5 Determination of Phenols in Mainstream Cigarette  
6 Smoke by HPLC and Fluorescence Detection," and in  
7 parentheses it says B, as in boy, 451CMP. And  
8 J.H. Bell is listed as receiving a copy of this,  
9 along with Doctors Minnemeyer and Schultz.

10 Can you identify who A. Prakash is,  
11 Mr. Bell?

12 A. That's a doctor -- what was her name  
13 Aruna, and I don't know how you spell that,  
14 Prakash. Indian, Ph.D., works in our analytical  
15 department.

16 Q. Okay. I want to turn your attention  
17 to the following page and under the heading  
18 of "Sample Preparation," the second sentence, and  
19 I'll read it to you. It says, "The procedure of  
20 J.H. Bell," and parentheses it says three, "was  
21 modified to quantitate the amount of phenols and

1 is reported here." Do you know what procedures  
2 she's referring to that she lists you by name?

3 A. Hm-hmm.

4 Q. What is that procedure, sir?

5 A. It was a liquid chromatographic or HPLC  
6 method that I had developed, and I turned it over  
7 to her for the purpose of doing these analyses.  
8 And she took it, and she changed this and changed  
9 that and modified it.

10 Q. Was this a procedure that you had, for  
11 lack of a better word, invented yourself?

12 A. I probably modified a procedure from in  
13 the literature that someone used for something.  
14 Then I adapted that for cigarette smoke. So, you  
15 know, I don't know how -- if that's called  
16 inventing or not, but that's the way it works.

17 Q. Did you patent that procedure?

18 A. No. You don't usually patent  
19 procedures, analytical procedures.

20 Q. You had done some work on the presence  
21 of phenols in smoke condensate many, many years



1 earlier; is that correct?

2 A. That's correct.

3 Q. And is that the similar type of  
4 procedure, where you were able to isolate, I  
5 believe we talked about 12 phenols before in one  
6 of the documents? Was that the same type of  
7 procedure that she was using or applying in this  
8 experiment as well?

9 A. No, it was quite different.

10 Q. Okay. Were you familiar with this  
11 experiment that she was conducting at this time  
12 in 1990?

13 A. Yes.

14 Q. Okay. And do you know what the purpose  
15 of this experiment was, as it related to the  
16 project B-451?

17 A. Yeah, in the project B-451, we were  
18 going to make a lot of experimental, prototype,  
19 strange, odd cigarettes, looking to modify the  
20 smoke and to see what kind of response that would  
21 have on the TA98 bacteria. We were also

1 interested in the chemistry of that smoke; and  
2 phenols, benz(a)pyrene and those compounds were  
3 going to be analyzed for each of these  
4 prototypes.

5 So she was just gearing up to have this  
6 procedure to handle the samples that we provided  
7 her.

8 Q. In 1990, hadn't you been able at the  
9 eliminate a majority of the phenols by an  
10 addition of that chemical compound we talked  
11 about in the filter?

12 A. I guess that's -- I guess that's a way  
13 you could eliminate those, yes.

14 Q. Were you still going to measure -- let  
15 me ask you this. For the purposes of this  
16 experiment, B-451, were you using filters that  
17 were treated with the poly -- that alcohol-based  
18 compound which eliminated the phenols? Were you  
19 using, I guess, test cigarettes that contained  
20 filters with that compound?

21 A. Practically all the cigarettes that we

1 made in this project were handmade on probably  
2 less than a hundred grams of material to generate  
3 these new smoking materials and these odd things  
4 that we were doing. It was extremely difficult  
5 to get more than just a little bit.

6 We couldn't go to a maker and  
7 machine-make cigarettes. We had to use a hand  
8 device that -- and we would buy what we call  
9 sleeves, which was just a roll of cigarette paper  
10 and one at a time take this material and make  
11 cigarettes that way. So we were literally  
12 making, you know, maybe one cigarette every 30  
13 seconds or so.

14 Q. So you weren't putting any filters on  
15 there?

16 A. No, no filters on there. You could buy  
17 the sleeves with filters, but since we didn't  
18 know anything about those filters, it was best  
19 not to use the filters.

20 Q. Okay. Let me show you -- have this  
21 marked as 11,720.

1                   (Deposition Exhibit Number 11,720 was  
2   marked for Identification.)

3           Q.   This is a document dated August 14th,  
4   1990, to M. Ireland from R. Striegel,  
5   S-T-R-I-E-G-E-L. And on the last page it's,  
6   among others, J.H. Bell was cc'd or received a  
7   copy of this.

8                   Mr. Bell, can you tell me what a  
9   Borg -- B-O-R-G-W-A-L-D-T, Borgwaldt smoking  
10  machine is?

11           A.   It's a -- it's a commercial smoking  
12  machine that operates on a rotating head with, in  
13  this case, I think it's got 20 ports, so you put  
14  20 cigarettes in, and a single piston, a syringe.  
15  It's a syringe piston -- a syringe.

16                   And it draws a 35 cc puff or whatever  
17  you want it to. And you can smoke -- you know,  
18  you can set it up to smoke 20 cigarettes at a  
19  time, taking one puff at a time, of course, for  
20  each cigarette as it rotates around.

21           Q.   Okay. Why would -- was this machine

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1 superior in some form or fashion than the prior  
2 machine you had that was being used?

3 A. You know, I don't really know what this  
4 report is. Let me look and see what they're  
5 doing here.

6 Q. Sure.

7 A. I think I know what it's about.

8 MR. GUSTAFSON: What's the question? Is  
9 there any question pending?

10 MR. ANGELOS: I think so. Was there  
11 any question pending, Miss Richmond?

12 (Question was read by the reporter.)

13 A. I think the technique may have been  
14 better than other techniques we had used, but it  
15 doesn't have anything to do with the smoking  
16 machine itself. It's just that the whole  
17 technique is better.

18 Q. Do you know what the Federal Trade  
19 Commission uses, what kind of machine they use to  
20 determine the tar and nicotine ratings of  
21 cigarettes?

1           A.    Many years ago when they were doing  
2   that?

3           Q.    Yes.

4           A.    I think they used what was called a  
5   Phipps and Berg smoking machine, which was quite  
6   different, actually, than this machine.

7           Q.    Okay.  And do you know if Lorillard  
8   still uses a Phipps and Berg machine in relating  
9   the tar and nicotine ratings that they provide to  
10  the government annually?

11          A.    They do use that type of machine, yes.

12          Q.    Okay.  And comparing the Phipps and  
13  Berg machine versus the -- what do we call this?

14          A.    Borgwaldt.

15          Q.    Yes, the Borgwaldt machine, can you  
16  describe or articulate any differences between  
17  the two machines, as how they measure tar and  
18  nicotine?

19          A.    I can go in great detail describing all  
20  of the ramifications of these machines.  I don't  
21  think you want me to do that.

1           The measurement of tar and nicotine  
2 appears to be something very simple, but in  
3 actuality, it's a very complex procedure. It's  
4 hard to do. Theoretically, there should not be  
5 any difference between the two machines, but I  
6 think there probably would be, maybe, some  
7 difference.

8           The most -- one of the critical aspects  
9 of smoking cigarettes by machine and determining  
10 tar and nicotine is in the airflow around the  
11 cigarette, because, as you've asked earlier this  
12 morning, the puff number determines the tar and  
13 nicotine, how many puffs per cigarette you have.  
14 And the airflow around that cigarette burning  
15 determines the puff number to a degree. It has  
16 some effect on the puff number.

17           So you have to put these machines in  
18 specially conditioned rooms with airflow control,  
19 very well controlled, and humidity controlled.  
20 And so it's a difficult thing to measure tar and  
21 nicotine.

1 But the two machines should be -- you  
2 know, should give approximately the same numbers,  
3 but I'm not sure -- you'd have to work on it to  
4 get the same numbers.

5 Q. Can you describe how the Borgwaldt  
6 smoking machine holds the cigarette?

7 A. Yes, I know how it does. It's hard to  
8 describe. You want me to describe it?

9 Q. If you could, please.

10 A. There's a cylinder that goes into a  
11 round head on the machine. And inside of that  
12 cylinder they have a rubber sleeve that you can  
13 insert into that cylinder.

14 And the cylinder has a hole about the  
15 size of your finger, and you put the rubber  
16 sleeve in that. And then pneumatically that  
17 can -- you can press air on that rubber sleeve to  
18 come around the cigarette, like you put in  
19 between your lips, that kind of thing.

20 Q. Does that rubber sleeve or kind of  
21 lipping, is that contained on the Phipps and Berg

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1 machine?

2 A. The new Phipps and Berg machines has a  
3 new designed mouthpiece, which I really don't  
4 know how to describe to you. But it's different.  
5 It's just a different -- the new mouthpiece is  
6 different than what I described for the  
7 Borgwaldt.

8 Q. Has there been a new Phipps and Berg  
9 machine introduced to measure the cigarettes in  
10 the F.T.C. method, using an updated model, a  
11 different model than you've used in prior years?

12 A. Yeah. I'm not -- I'm not really aware  
13 of -- I know there's been changes, and I know we  
14 have replaced all of our machines with newer  
15 machines. But I'm not familiar with what those  
16 changes are now. At one time I kept up with  
17 that, but in the last ten years, I haven't.

18 Q. Okay. Let me show you what we'll mark  
19 as 11,721.

20 (Deposition Exhibit Number 11,721 was  
21 marked for Identification.).

1           Q.   Hand that to you. And this is a  
2 document dated February 21st, 1992, to M.S.  
3 Ireland from R.M. Striegel. And I just want to  
4 go to under -- or confirm something under gas  
5 phase development, 1992. The memorandum states  
6 that, "In conversation with Jim Bell and Dr. Vela  
7 Norman, it was suggested that a method for  
8 collecting and analyzing all the puffs would give  
9 more representative data. A 20-port Borgwaldt RM  
10 20/CS smoking machine was purchased by Jim Bell's  
11 group and loaned to analytic development in  
12 October of 1991."

13               Did you, in fact, you and your group,  
14 purchase that new Borgwaldt --

15           A.   Yes.

16           Q.   -- cigarette machine? Okay. And is  
17 it fair to say that at least what R.M. Striegel  
18 is saying is that the method for collecting  
19 and analyzing the puffs would give more  
20 representative data with this new machine?  
21 Is that a fair statement concerning the

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1 conversation you had with that individual before?

2 A. Yes, I think so.

3 Q. Okay. And when you talk about more  
4 representative data, can you describe what that  
5 means?

6 A. Yes. The way we were doing -- this is  
7 about gas phase smoke analysis.

8 Q. Hm-hmm.

9 A. The gas -- everything is dynamic.  
10 Smoke is dynamic. Smoke is an aerosol that's  
11 always changing, and every second it's changing.  
12 So you want to analyze it as quickly as you can.

13 So if you smoked a cigarette, an old  
14 method would be smoke a cigarette into a bag,  
15 which it would take 10 minutes, and then sample  
16 the smoke in that bag and analyze it. Well, your  
17 smoke is ten minutes old when you analyze it.

18 The method that he -- that Dick was  
19 using, Striegel was using, involved looking at  
20 the smoke in each puff and then looking -- and  
21 then averaging those numbers. Because we know,

1 as we talked about this morning, that the tar  
2 goes up with every puff. It always has and  
3 always will.

4 So then you're getting the average puff  
5 type thing.

6 This method that I suggested said in  
7 this rotating head, you could take a puff from a  
8 number of cigarettes. You could take from  
9 cigarette one, you could at that time first puff.  
10 Cigarette two, you could take the second puff;  
11 and cigarette three, the third puff.

12 Then you would have a composition of  
13 all the puffs taken within about a minute, and  
14 then you could sample that. So it's much  
15 fresher. So, therefore, your analysis should be  
16 much better and much closer to a real value than  
17 something aged or something averaged over a  
18 number of puffs taken every minute.

19 Q. Okay. When Lorillard forwards their  
20 annual tar and nicotine percentages or ratings to  
21 the F.T.C., is it based upon an average of all

1 the puffs or is it -- is it based upon an average  
2 of all the puffs in a cigarette?

3 A. Well, I think you missed a point here,  
4 John. Everything you've shown me is -- from Dick  
5 Striegel is on gas phase. That's not part of  
6 tar. The tar is what's on the pad. This gas  
7 phase is coming through that pad. It's never  
8 measured as tar.

9 Q. Okay. So when -- at least the F.T.C.  
10 Numbers that Lorillard reports to the F.T.C.,  
11 that's just on the Cambridge pad; is that  
12 correct?

13 A. Right. That's defined as tar, and  
14 that's been defined as tar ever since the F.T.C.  
15 Started doing this. That's what we call tar.

16 Q. Okay. And how many puffs are  
17 registered on the Cambridge pad that are used as  
18 an F.T.C. average, that's forwarded to F.T.C. on  
19 the tar and nicotine ratings? Is the whole  
20 cigarette smoked to a certain length, and then  
21 that's reported to the F.T.C., or is it a portion

1 of it or --

2 A. No. It's a standard tipping paper,  
3 plus three millimeters, and the machine smokes  
4 down to that point. These machines have a string  
5 that's laid across that point of the cigarette.

6 And once it's burned through, it cuts  
7 that cord off. And it can cut it off in the  
8 middle of a puff. So you can actually have  
9 eight-and-a-half puffs or 8.2 puffs or whatever.

10 Q. So when you say it goes three  
11 millimeters above the tipping paper, that's the  
12 last section above the filter? Is that where the  
13 tipping paper ends, three millimeters above that  
14 last section?

15 A. Well, you have a tipping wrapper on the  
16 cigarette. And if you take the end of that and  
17 measure three millimeters, that's what the --  
18 that's the standard length that you smoke the  
19 cigarette to.

20 Q. Okay.

21 A. And some cigarettes could be different

1 because of the different tipping paper length.  
2 But it doesn't make any difference; that's what  
3 you smoke it to.

4 Q. Okay. And that's all collected in the  
5 Cambridge filter, and that's what is analyzed for  
6 content, which is ultimately submitted to the  
7 F.T.C.; is that correct?

8 A. After some manipulation of that. You  
9 subtract out the water.

10 Q. Hm-hmm.

11 A. And you subtract out the nicotine, and  
12 then you have tar. 'Cause the nicotine's  
13 reported differently, separately.

14 Q. There's a separate reading for  
15 nicotine?

16 A. Yes.

17 Q. And a separate reading for the tar.  
18 And is the nicotine, the reading that's -- or  
19 reported to, is it just the nicotine that's  
20 recovered in the Cambridge filter?

21 A. Yes, that's right.

1 Q. There are no other sources where the  
2 nicotine is measured from, other than the  
3 Cambridge filter?

4 A. Well, I think by -- you know, by  
5 experimentation we know that, I think, 99 percent  
6 or maybe almost totally, all the nicotine is  
7 collected on that filter.

8 Q. Okay.

9 A. It's in the particulate matter that  
10 collects on that filter.

11 (Deposition Exhibit Number 11,722 was  
12 marked for Identification.)

13 Q. Show you a document, 11,721 -- 11,722.  
14 See if you recognize that, sir. I guess the  
15 question is, did you go to the Bahamas back in  
16 1979 on Lorillard's tab to attend a conference  
17 down there?

18 A. Yes, I did. One of the best things  
19 that ever happened to me at Lorillard.

20 (Deposition Exhibit Number 11,723 was  
21 marked for Identification.)



1           Q.    All right. Let me see if there's a  
2   second place for that. Go ahead and show you  
3   11,723 and ask if you went to Dusseldorf,  
4   Germany, in 1990, and if that was as a rewarding  
5   vacation or trip that you might have taken? Did  
6   you go to Dusseldorf, Germany, in 1990?

7           A.    No, I did not.

8           Q.    Oh, I see. The meeting was held in  
9   Winston-Salem; is that right?

10          A.    Yes.

11          Q.    Okay. I note these documents -- pardon  
12   me -- marked as Plaintiffs' Exhibit 723 was  
13   written by -- I believe this was written by --  
14   recorded by Jim Bell, it says on page three at  
15   the bottom.

16          A.    Oh, yeah.

17          Q.    Okay. Did you travel to Dusseldorf for  
18   this meeting originally and participate?

19          A.    No. This meeting was in Winston-Salem.

20          Q.    Okay. When it says on, at least,  
21   number one, it says, "The minutes of the April

1 1st meeting held in Germany, Dusseldorf, Germany,  
2 were discussed and approved," do you see where  
3 that was written?

4 A. Okay. I did not attend the meeting in  
5 Dusseldorf.

6 Q. Okay.

7 A. I was asked to write the minutes down  
8 for the meeting in Winston-Salem that discussed  
9 the Dusseldorf meeting.

10 Q. Okay.

11 MR. GUSTAFSON: John, my copy of this  
12 has a --

13 MR. ANGELOS: Yeah, so does mine.

14 MR. GUSTAFSON: Came with our document  
15 attached. That should not be attached.

16 MR. ANGELOS: Correct. That's correct.

17 MR. GUSTAFSON: Jim, could you --

18 MR. ANGELOS: Just pull that off, sir.

19 MR. ANGELOS:

20 Q. What is CORESTA SS and ETS task force?  
21 Can you identify that for -- who that is or what

1 group that is?

2 A. Okay. What do you want first?

3 Q. CORESTA?

4 A. CORESTA?

5 Q. Yes, sir.

6 A. That is French, and I can't -- but in  
7 France, that is a international tobacco  
8 organization, research organization, a tobacco  
9 research organization.

10 Q. Are you or were you a member of that  
11 organization?

12 A. Yes, I was.

13 Q. And ETS Task Force that's listed?

14 A. ETS is the Environmental Tobacco Smoke.

15 Q. And are you a member of that task force  
16 as well?

17 A. Yes, I was a member of that task force.

18 Q. Okay. And on page -- the last page of  
19 this, there's a group of people listed here as  
20 list of participants and you're listed second, J.  
21 Bell from Lorillard. Does this list of

1 participants -- this list that's written here,  
2 does this include people that are participants in  
3 both the CORESTA and the ETS task force or is  
4 this the same?

5 A. It's the same.

6 Q. Same thing, okay. And how did you come  
7 to be nominated or placed on this committee?

8 A. The CORESTA organization operates  
9 through these task forces for their scientific  
10 investigations in doing their business. And  
11 anyone that's a member of CORESTA can be on the  
12 task force if they desire to be. It's not  
13 appointed or anything.

14 So I was -- I represented Lorillard in  
15 the smoke study -- smoke area that they study  
16 smoke and tobacco smoke and that type of thing.  
17 So this task force was under that -- that group.  
18 And so I served on this committee.

19 Q. Okay.

20 A. This task force.

21 Q. Show you one more document here, sir.

1 I'm going to mark as Plaintiff's Exhibit 11,724  
2 and see if you recognize this.

3 (Deposition Exhibit Number 11,724 was  
4 marked for Identification.)

5 Q. This is a document dated December 6,  
6 1993, and it's entitled, "Lorillard Research  
7 Department, Patents by Author," and you're  
8 listed; at least I have Jim Bell listed here with  
9 a series of patents. And it's really going to  
10 encompass the first four pages.

11 And I want to ask you, at least looking  
12 at page one, called, "Selective Filters for  
13 Cigarettes," and is this a patent that you -- or  
14 do you hold this patent collectively with these  
15 other gentlemen listed here, Spears, Routh,  
16 Lassiter?

17 A. Yes.

18 Q. Okay. And is that a patent pending or  
19 a patent that's been filed and accepted by the  
20 U.S. Patent Office?

21 A. I believe it's filed and accepted.

1           Q.    Okay. The next one's  
2           called, "Cigarette Filter," and again  
3           it's the same four gentlemen. Is that a  
4           patent that's also been filed and accepted  
5           by the U.S. Patent Office?

6           A.    To my knowledge it is.

7           Q.    Okay. The next one's called, "Chewing  
8           Tobacco Product," and it has several names,  
9           including yours. Is that a patent you also  
10          collectively hold with these gentlemen here?

11          A.    Yes, it is.

12          Q.    Okay. "A Method for Making Tobacco  
13          Products," another patent which you're  
14          collectively listed. Is that one that you also  
15          hold with those gentlemen?

16          A.    Yes, it is.

17          Q.    Okay. And I'm going to ask you the  
18          same question for, "Cigarette Filters Containing  
19          Selective Adsorbents"?

20          A.    Yes.

21          Q.    And "Selective Cigarette Filters," you

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1     also have a patent with those gentlemen, as well;  
2     is that correct?

3           A.    Yes.

4           Q.    And in the next page, "Quantitative  
5     Determination of Alkanes," A-L-K-A-N-E-S, "In  
6     Cigarette Smoke," and you hold that collectively  
7     with those gentlemen, as well; is that correct?

8           A.    That's not a patent.

9           Q.    What is that?

10          A.    Publications and presentations.

11          Q.    Okay.

12          A.    And the rest of that would be the same  
13     thing.

14          Q.    Okay. And at least the ones that are  
15     listed here on this document, are all these  
16     publications that are accurate, and they reflect  
17     work that you published over the course of your  
18     career?

19               MR. GUSTAFSON: Objection to form.

20          Q.    I'll represent to you that this  
21     document was on the Lorillard web site that's

1 accessible to anyone in the country, and this is  
2 what was put up there. So....

3 MR. GUSTAFSON: I think the question is  
4 vague and ambiguous in terms of what you mean by  
5 accurate. I don't understand that.

6 Q. These are the names of the articles and  
7 publications you've been involved with.

8 A. Well, I haven't read through the whole  
9 list --

10 Q. Hm-hmm.

11 A. -- but they're probably either  
12 publications or oral presentations that I've  
13 given at conferences.

14 Q. Okay.

15 A. And I don't know if they're all  
16 accurate or not. But there may be some  
17 misspelling or something, but....

18 MR. ANGELOS: Okay. Craig, that's all  
19 I have.

20 MR. GUSTAFSON: Okay. Let's take just  
21 a two-minute break, and then we'll wrap this up



1 real quick.

2 THE VIDEOGRAPHER: Off the record at  
3 4:51 P.M.

4 (Recess taken -- 4:51 P.M.)

5 MR. GUSTAFSON: We're finished.

6 THE VIDEOGRAPHER: This is the end of  
7 the videotape deposition at 4:54 P.M.

8 MR. GUSTAFSON: We'd like the  
9 opportunity to read the transcript.

10 (Examination concluded -- 4:54 P.M.)

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Al Betz & Associates, Inc. (410) 752-1733

94678530

1 STATE OF MARYLAND CITY OF BALTIMORE SS:

2 I, Nancy P. Richmond, a Notary Public  
3 of the State of Maryland, do hereby certify that  
4 the within named, JIMMY H. BELL, personally  
5 appeared before me at the time and place herein  
6 set out, and after having been duly sworn by me,  
7 was interrogated by counsel.

8 I further certify that the examination  
9 was recorded stenographically by me and this  
10 transcript is a true record of the proceedings.

11 I further certify that I am not of  
12 counsel to any of the parties, nor an employee of  
13 counsel, nor related to any of the parties, nor  
14 in any way interested in the outcome of this  
15 action.

16 As witness my hand and notarial seal  
17 this 27th day of August, 1998.

18 My commission expires:

19

20 \_\_\_\_\_ June 4, 2001

21 Notary Public

Al Betz & Associates, Inc. (410) 752-1733

94678531

## 1 C A P T I O N

2 The deposition of JIMMY H. BELL, taken  
3 in the matter, on the date, and at the time and  
4 place set out on the title page hereof.

5 It was requested that the deposition be  
6 taken by the reporter and that same be reduced to  
7 typewritten form.

8 It was agreed by and between counsel  
9 and the parties that the Deponent will read and  
10 sign the transcript of said deposition.

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94678532

## C E R T I F I C A T E

STATE OF \_\_\_\_\_:

COUNTY/CITY OF \_\_\_\_\_:

Before me, this day, personally appeared  
JIMMY H. BELL, who, being duly sworn, states that  
the foregoing transcript of his/her deposition,  
taken in the matter, on the date, and at the time  
and place set out on the title page hereof,  
constitutes a true and accurate transcript of  
said deposition.

SUBSCRIBED and SWORN to before me, this \_\_\_\_  
day of \_\_\_\_\_, 19\_\_ in the  
jurisdiction aforesaid.

My Commission Expires

Notary Public

Al Betz &amp; Associates, Inc. (410) 752-1733

94678533

## 1 DEPOSITION ERRATA SHEET

2 RE: Al Betz &amp; Associates, Inc.

3 FILE NO.: 20678

4 CASE CAPTION: STATE OF MARYLAND vs. PHILIP MORRIS

5 DEPONENT: JIMMY H. BELL

6 DEPOSITION DATE: August 18TH, 1998

7 I have read the entire transcript of my  
8 Deposition taken in the captioned matter or the  
9 same has been read to me. I request that the  
10 changes noted on the following errata sheet be  
11 entered upon the record for the reasons  
12 indicated. I have signed my name to the Errata  
13 Sheet and the appropriate Certificate and  
14 authorize you to attach both to the original  
15 transcript.

16 PAGE/LINE CHANGE REASON

17 \_\_\_\_\_  
18 \_\_\_\_\_  
19 \_\_\_\_\_

20 SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

21 JIMMY H. BELL

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1	PAGE/LINE	CHANGE	REASON
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19			
20	SIGNATURE: _____		DATE: _____
21	JIMMY H. BELL		

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94678535

## I N D E X

Deposition of Jimmy Holt Bell

August 18, 1998

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